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United States NEWS

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THE ONLY MAGAZINE

DEVOTED ENTIRELY TO

REPORTING . . . INTERPRETING

AND FORECASTING THE

NEWS OF NATIONAL AFFAIRS

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STATE NORMAL COLLEGE
YPSILANTI, MICH.

PRICE 10 CENTS OCTOBER 2, 1942

ALL SALARIES CUT

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Shift of WPB Leaders: New Industry Controls

★ ★

Growing Victory Roll Of U.S. Submarines

★ ★

IN THIS ISSUE

THE AIRPLANE and THE BATTLESHIP

By Admiral Rowcliff, member of the General Board, U.S. Navy

COMMUNICATIONS
. . . directing arm of combat

"Get the message through!" That's the tradition of the men who wear this insignia. Of the 18,000 Bell System people now in the armed forces, nearly 4,500 are with the Signal Corps. Young men can serve their country and obtain specialized training in communications in this great branch of the Army.

...and Western Electric equipment goes to every battle front

Army planes fly and fight with Western Electric radio command sets, which keep the planes of a squadron in contact with each other and with the ground forces.

Wherever American soldiers fight in tanks, they get their orders over Western Electric radio sets—vital in coordinating today's mechanized warfare.

Observers report front-line action to Army commanders over Western Electric field telephones, field wire, field switchboards.

A major source for this specialized equipment is Western Electric—for 60 years manufacturer for the Bell System—one industry with over 70,000 skilled men and women dedicated to *"keep 'em in contact."*

Western Electric

ARSENAL OF COMMUNICATIONS

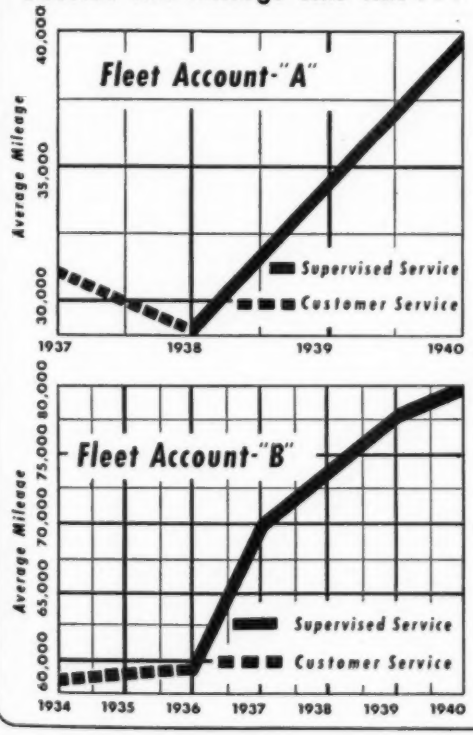
LET FACTORY-TRAINED ENGINEERS TAKE OVER YOUR TIRE MAINTENANCE

Engineers Such as These . . .

Paul Barnard—Temple University Extensive business background as district manager; joined B. F. Goodrich in 1927. Tire sales and service work for ten years. National account representative for three years. After factory training transferred to Tire Conservation Dept. on March 23, 1942

Paul Viell—Ohio State and Akron Universities. Three years as Estimator and General Manager in construction industry; joined B.F Goodrich in 1933; factory production work for two years; tire service engineer and adjusting department work for seven years. Transferred to Tire Conservation Dept. Feb. 16, 1942

Boosted Tire Mileage Like This . . .



Perfected B. F. Goodrich plan conserves rubber, saves many times more than it costs

HERE is a scientific plan for tire care and rubber conservation adapted to the needs of truck fleets after *15 years* of successful use on many of the country's biggest bus fleets. Bus fleet operators have ordinarily received up to 50% more tire mileage—and some of the most important truck fleets in the country where this plan is now in operation say the service is worth far more than the fee.

Trained Engineers Take Charge

This is *not* just another tire conservation plan, good as they are. It is a comprehensive, point-by-point program under which B. F. Goodrich factory-trained engineers take over the *complete* supervision of tire care. One hundred tires or thousands . . . each casing is given the necessary supervision by the B. F. Goodrich engineers.

Because the engineering personnel we have is limited and men cannot be trained quickly for this work, we can offer this plan to only a limited number of fleets at present. This new plan, which will help you cooperate with the government's Truck Conservation Corps Program, is the first of its kind to be offered by any rubber company—another example of the leadership which has made B. F. Goodrich "First in Rubber"—in war as in peace. If you would like details of our scientific tire conservation plan write

TIRE CONSERVATION DEPARTMENT, Room J
The B. F. Goodrich Company, Akron, Ohio

B.F.Goodrich

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JOIN THE U. S. TRUCK CONSERVATION CORPS

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News within the News

Title Reg. U.S. Pat. Off.

ALL SALARIES CUT.....P. 9

For those whose salaries lie between $2,000 and $10,000 a year tough times are ahead. Office workers, salesmen, teachers, Government workers, executives, retired persons face frozen salaries and depleted incomes. And what is left will be sliced by higher taxes and a rising cost of living. Here are graphic examples of what is to happen to them and the choices they must make to survive.

NEW LINE-UP IN CONGRESS.....P. 11

Here is an intimate, behind-scenes glimpse of the forces at work in Congress on inflation controls. A new friendship between the farm bloc and the business group edges labor aside. Portents of permanency are visible in the new friendship. It poses the questions: Can bloc government be made to work in wartime? Must the President act to relieve Congress of the burden of hard-boiled decision?

RICH HARVEST FOR UNIONS.....P. 12

Dues collections for labor unions are running higher than at any time in history. They exceed $144,000,000 a year, are many millions more than last year. There are no strike expenses. Collections come easier. Big pools of money are being piled up by some unions. They are growing steadily. How will this money be used by labor? What does the situation portend for the nation's future economy and politics? An exploratory article on a subject of importance.

OUR TWO WARS IN PACIFIC.....P. 14

The United States is fighting two wars in the Pacific. One is a naval war, aimed from New Zealand across the Solomon Islands toward bigger and more important Japanese bases. The other is the Army's war, now centered upon New Guinea, but headed, ultimately, toward spots closer to the heart of Japan. A progress report on the wars in the Pacific, under separate direction and separate planning, but against the same enemy.

SHIFT OF WPB LEADERS.....P. 16

Once again the Government's war production machinery is being overhauled and oiled. And here is an analysis of the new production plan, a study of the men who will translate it into action. The methods of Bernard Baruch, copied by Germany and England, finally come home to work. Presented is a glimpse of what is to happen to raw material controls, production plans, of the new methods of operations.

THE AIRPLANE AND THE BATTLESHIP .....P. 17

The war and its weapons as viewed by a professional . . . Rear Admiral G. J. Rowcliff gives an appraisal of the value of each weapon, surface, subsurface and air. He emphasizes the danger of the lay mind arriving at false conclusions as to the value of any one weapon without the necessary background and full information needed to reach a sound conclusion. The article should help to remove some of the fog that surrounds the arguments between proponents of the airplane and those of the battleship . . . Explains why all types of modern weapons are needed to win.

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The March of the News

Title Reg. U.S. Pat. Off.

New Ship-Launching Record . . . Further Cut in Retail Services . . . Upturn in Transport Output . . . Wage Demands on Railroads

Shipbuilding. Oregon Shipbuilding Co., a concern headed by Henry J. Kaiser, broke a world's record in launching a Liberty ship 10 days after the keel was laid. Mr. Kaiser promised delivery in time to break every shipbuilding record in history.

Subsequently Rear Admiral Emory S. Land, chairman of the U.S. Maritime Commission, received plaudits from the President for the building record of the last year. Admiral Land's report revealed:

Deliveries of completed merchant ships in the last 12 months totaled 488, aggregating 5,450,000 deadweight tons. Of these, 327 were Liberty ships, designed especially for war service.

Production time for Liberty ships has dropped from an average of 241.8 days to 70 days.

The President's goal of 24,000,000 tons of merchant shipping in 1942 and 1943 promises to be met.

Production. War production also climbed in other fields. Federal Reserve Board's index of production shed some light on specific military secrets. For example:

The index for transportation equipment, which includes output of the aircraft, shipbuilding and automobile industries, stood at 453 for August, against 279 in December. Figures are based on output between 1935 and 1939 at 100.

Over-all production jumped from 180 in July to 183 in August, with output of durable goods (machinery, weapons, etc.) at 254. Production of furniture, stone clay and glass products, paper and paper products was down, reflecting the shift from peace to war economy.

These figures, however, still failed to satisfy war production managers. The War Production Board was reorganized by Chairman Donald M. Nelson and regional WPB offices were authorized to issue emergency priorities for materials and equipment to avert plant breakdowns or production stoppages.

Battle fronts. The incredible Russian defense of Stalingrad, key city on the Volga, continued to hold the world's attention. Under attack for more than a month, the Russians were counterattacking at the week end.

Europe. Bombing raids over Germany and German-held areas continued through the week and Maj. Gen. Ira C. Eaker, commander of the U.S. Army Air Forces Bomber Command in Europe, announced: "I believe it is possible to destroy the enemy from the air."

Pacific. Fighting continued to be a daily affair on the Solomon Islands and other outposts held by United Nations forces. However, the large-scale battle expected in New Guinea for Port Moresby failed to materialize.

Price controls. The President and Congress appeared headed for a collision over price-control plans when the House voted to increase farm "parity" prices by including labor costs in the formula. At the week end, Senator Barkley (Dem.), of Kentucky, announced that the Administration had enough votes in the Senate to reach a compromise.

The compromise: No tampering with the parity formula, but authorization for the President to adjust agricultural prices whenever labor costs or the need for increased production justified such adjustments.

Meanwhile, concessions were made in the Government's attempts to hold general prices under a ceiling.

Retail services. Office of Price Administration announced plans to help retailers keep profits by reducing services, thereby lowering costs. Some services scheduled to become war casualties: Number of deliveries, merchandise returns, telephone orders for small amounts, "law aways" for small deposits.

Fats and oils. Commodity Credit Corp. is prepared to subsidize processors of oils for salad, margarine and cooking to the amount of $16,000,000. This is expected to cut processors' prices by ½ cent a pound, which will enable retailers to bear the squeeze between rising raw oil prices and ceilings on the processed article.

Man power. Selective Service Director Hershey issued a work-or-fight order directed at miners. Persons who remain away from work or take days off without explanation are to be reclassified by local draft boards.

Railroads. Brewing was another railway labor dispute. Members of the 14 non-operating brotherhoods (maintenance men, clerks, freight handlers, dining car employes, etc.) want a 20-cent-an-hour wage increase and a union shop. The brotherhoods argued that they deserved a union shop as much as any other industry; that, even with the 20-cent wage boost, their members would be 25-cents an hour below most factory workers.

Fuel oil. The cloudy fuel oil picture darkened a shade or two more when Deputy Price Administrator Paul M. O'Leary forecast a ration 33 1/3 per cent below normal for the 30 Eastern and Midwestern States. Original plans called for a cut of 25 per cent.

However, OPA officials explained that rationing plans are based upon normal weather; that the 33 1/3 per cent cut will amount only to 26 per cent less oil than most householders bought last winter, which was comparatively mild.

Gasoline. OPA was ordered by Rubber Administrator William M. Jeffers to install nationwide gasoline rationing on a coupon basis. No time limit was set, but few officials think arrangements can be made before November. Basic rations will provide gas for 2,880 miles of driving a year.

Taxes. Senate Finance Committee completed action on the 1942 tax bill, expected to have the measure ready for debate by early October. Meanwhile, Committee members voted to freeze Social Security levies at present levels. They were scheduled to double on January 1. The Treasury wanted an even higher rate on pay rolls.

Banks as Clearing Houses For Ration 'Coupon Money'

The banking system may be drafted to handle the "coupon money" expected to develop as a result of war rationing.

Office of Price Administration is trying an experiment in the Albany-Schenectady-Troy area in New York to test the plan's soundness. If successful, State and national bank and clearing house facilities will be used to handle ration coupons.

The system would work this way: Businessmen receiving ration coupons would deposit them with their banks, just as checks and currency now are deposited. Subsequent transactions would be handled through checks drawn on deposits of coupons. Consumer use of coupons would not be affected.

Purpose is to relieve local ration boards, which are being swamped in an attempt to handle 130,000,000 sugar stamps a month. In the East, ration boards also are getting 150,000,000 gasoline coupons a month. Cost of the services would be carried by OPA.

What is America's NEXT great industry?

A symbolic interpretation of the television science. The television transmitter apparatus converts optical images into electronic signals. The human eye is the image to be televised. In the center of the illustration, the pattern of the signal representing the eye (with the actual eye symbolically superimposed) appears on the oscilloscope.

THERE is just one task before the American people today and that is to win the war, quickly and decisively.

When peace comes a new and brighter world will open up. Many marvelous things await the day of Victory; among them, the fulfilment of a great dream — *television in the homes of the nation.*

Farnsworth was a pioneer in television research and development. Today our laboratories and plants are engaged to the very limit of capacity in producing fine electronic equipment for our armed forces all over the world.

But progress in television has not halted. Out of Farnsworth's work for the nation is rising a surer knowledge of this miraculous science; and Farnsworth is bringing to its work the experience gained through 15 long years of research and discovery, and 14 years' precision manufacture of the Capehart Phonograph-Radio.

Consider the part television will play in the conversion of our national economy from a wartime to a peacetime basis! After the war television may duplicate the spectacular growth of the automobile industry, which did so much to pull America out of the depression that followed World War I.

Until then, few can enjoy television. But you can prepare for an earlier tomorrow by buying War Bonds *now!* The Government needs your investment, and you, too, will be building soundly for the future, when you may want to purchase a home, a car, a television set.

Meanwhile, watch Farnsworth closely. It is our purpose that the name of Farnsworth shall loom bright and clear upon the future's magic screen — television.

Philo T. Farnsworth
President
Farnsworth Television & Radio Corporation
Fort Wayne, Indiana

• Manufacturers of Radio and Television Transmitters and Receivers; Aircraft Radio Equipment; the Farnsworth Dissector Tube; the Capehart, the Capehart-Panamuse, and the Farnsworth Phonograph-Radios

FARNSWORTH TELEVISION

Title Reg. U.S. Pat. Off

2201 M Street, N. W.
Washington, D. C.

Newsgram

It might as well be told that there's much more change ahead; that easy-going days of the war are about over. Under plans slowly taking shape:

If you are a salaried worker or wage earner.....

You won't be able to get a raise without a Washington okeh. That goes for everybody. It is part of the President's plan for inflation control. It hurts.

You may be ordered to stay in the job you hold, regardless of your wishes.

Or, you may be moved to another job if the one you hold doesn't help the war effort. Some jobs are to be closed to men of draft age. That's part of the work-or-fight idea. It is in the mill. It is to come as labor supply tightens.

If you are a farmer.....

You will find your prices fixed firmly on the things you sell. At least, that's the theory. It certainly will apply at central markets. It may not always apply for a little business on the side with city people buying direct.

You are to be told, sooner or later what you must grow and what you cannot grow. Watermelons already are classed as one of the coming can'ts.

You may be denied the right to leave the farm, if you're its operator. The idea is to check what is coming to be a migration to war industries.

If you are an employer.....

Your salary is to be limited. Any raise after September 15 is to be barred. President still wants a $25,000 ceiling. But: It is discovered in England that a ceiling at about that level, after taxes, leads to big expense accounts.

You will find your right to hire and fire much restricted. Plans already are under study to limit hiring, except through U.S. agencies.

You will be strictly rationed on materials. Loose controls of the past are to give way to direct allocation, to firm controls in the future. (See page 16.)

If you are an ordinary citizen.....

You're going to have trouble getting some of the food you may want. There are real shortages ahead in meats, in canned goods, in some dairy products.

You are to be forced to cut down on your driving. Your heating problem, if oil is used, will be a real one this winter. Oil and gas remain tight.

You will probably have to go easy on entertaining.

You will find Army demands for men of military age nearly insatiable. In 1943 that demand will cause more upsets than any other.

These things aren't to hit all at once. They won't come overnight. But: They're the things now getting official attention. They're in the cards as war deepens, as man power gets scarce, as U.S. mobilizes to fight a war.

Meat rationing will be only the start of food rationing for U.S. Many other foods are on the list. It's because of impending shortages. Meat shows why.

Meat supply: That supply is to be a record 24,000,000,000 pounds in 1942.

Civilian meat demand: This demand is to be above 21,000,000,000 pounds.

Army-lend-lease demand: That demand is fixed at a minimum of 6,500.000,000

(over)

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pounds. And: It is very probable to rise above that total.

So: Here's the prospect of a maximum meat supply of 24,000,000,000 pounds and a minimum demand for 27,500,000,000 pounds of meat. Rations will divide it up.

As to the ration method.....

It's to be on a point system. Each family will get so many points, with the children under 6 getting a quarter as many as adults, those 6 to 12 getting one-half as many. The basic ration is to be about 2.5 pounds per person per week.

But: A pound of steak will use up more points than a pound of chuck roast; a pound of pork will require more points than a pound of mutton. There's to be a whole new system of pricing. Money won't count so much. Coupons and points will count for everything. That is something housewives will wrestle with.

Until rationing starts there's to be a scramble for available meat. There won't be enough to go around. Still: Food in general will be fairly abundant.

In the war itself.....

It is probable that the big turn now is under way; that the time when Hitler might have isolated Russia and then turned west to block U.S. and Britain is past.

Not that the war is going to be over soon, not that the real fighting for this country is over with. Far from it. The war for us all lies ahead.

But: Hitler's armies are irreparably hurt in Russia. They won't again be as strong as they once were. And: They still will be occupied in Russia in 1943.

That gives U.S. time to get organized. It means that 1943 won't be too late for the big invasion attempt in Europe. It assures that Hitler is unlikely to get time to organize Europe. He's still got a lot of fighting to do in Russia.

Both Hitler and Japan are thinking now in terms of defending their loot.

Concerning the U.S. war effort to date.....

At sea: U.S. Navy now is rapidly being strengthened. It is beginning to get a big and steady flow of new ships. Its position relative to Japan and to German submarines is growing stronger. Next year will see a naval offensive.

In the air: U.S. forces are getting strong in several sectors. Months to come should see concentration of forces at key points for the start of offensives.

On land: U.S. Army is approaching an impressive strength. It is possible that as many as 4,000,000 men may be overseas by the end of next year.

All of this means that American strength will begin to be brought to bear in 1943; that by 1944 the strength of U.S. forces can become decisive in the war. U.S. mobilizing is about one year behind schedule. It is slower than expected.

There's a slowdown right now in arms output gains. It is due to a chaotic situation in raw materials, to a breakdown in the priority machinery.

Latest WPB shifts reflect this slowdown. They represent one more effort to bring order out of disorder, to try to decide what can and what can't be done, to try to relate available materials and machines to the work needing to be done.

And: This time the prospect is that results will be achieved.

Two men who are out after results are Ferdinand Eberstadt and C. E. Wilson. They're new vice chairmen of WPB. They come in with confidence of the military services. They plan to revive the industrial mobilization plan that was devised in U.S., copied by Germany and Great Britain, ignored until now by U.S.

This means: There is to be strict rationing of raw materials. There is to be a firm control over production schedules. Days of drift in control of industry in war probably are numbered. However: It will take several months to bring order out of present disorder, to get the war machine back on the track.

See also pages 9, 14, 17.

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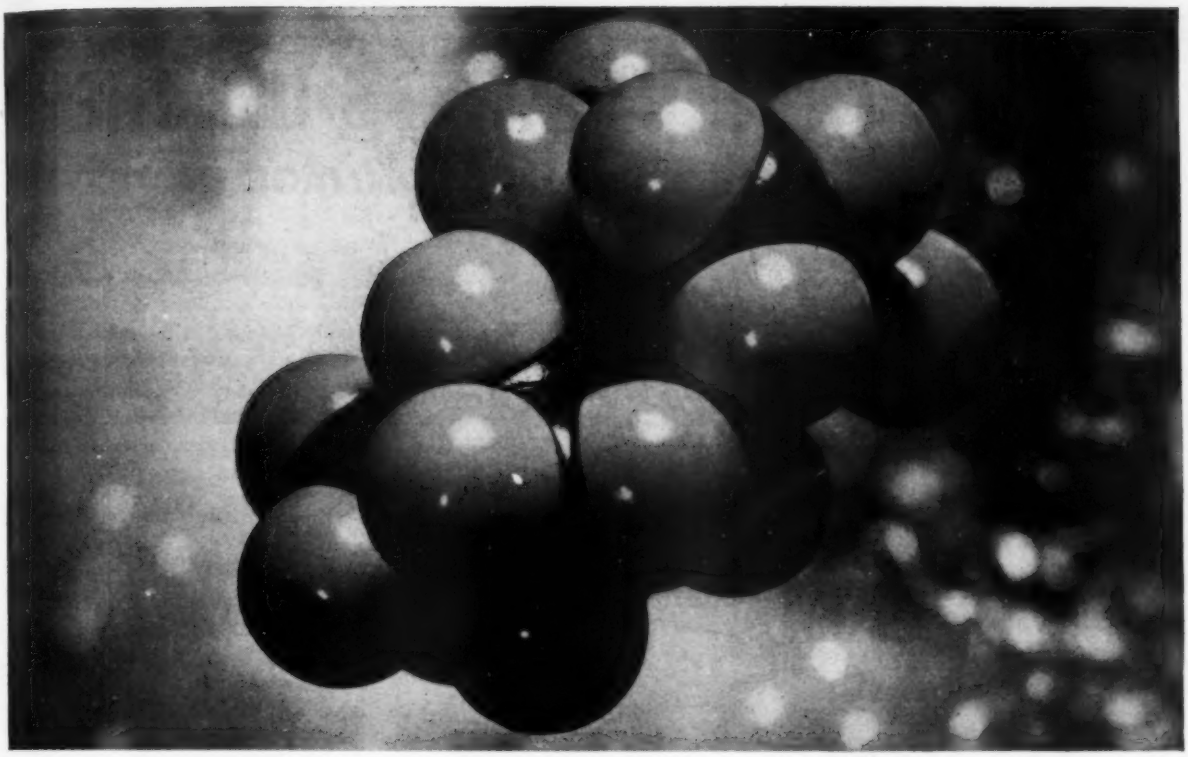

"NEVER in the field of human conflict was there so much owed by so many to so few," said Winston Churchill. For the fate of England —if not the whole world—was determined by the men of the Royal Air Force between August 8 and October 31, 1940, when they turned back the Luftwaffe in the Battle of Britain.

As the records of that epochal struggle are revealed, we learn more and more of the gallant sacrifices made, the courageous deeds performed, during those eighty-five days of furious fighting. We learn, too, of the little details that sometimes play a part in deciding the fate of nations.

One of those "little" things is pictured above.

It is a molecule of an ingredient in the gasoline that helped the RAF win the Battle of Britain. It is called iso-octane. The atoms of hydrogen and carbon which form iso-octane hang closely together like a bunch of grapes, as shown in the chemist's model above.

Maybe that peculiar bunching of the atoms is the reason why iso-octane has such a high antiknock quality that years ago it was considered "perfect" and was adopted as the scale for measuring the antiknock quality of gasoline. Possibly iso-octane's remarkably high antiknock quality is due to some other reason.

Whatever the reason, this clear-cut superiority over ordinary gasoline was enough to start the research laboratories of the American petroleum industry working, developing manufacturing processes that changed iso-octane from a forty-dollar-a-gallon curiosity to a twenty-cent-a-gallon ingredient of aviation fuel for the planes of the United Nations.

The Battle of Britain might have been won without iso-octane. We cannot say. All we know is that the British had it for their fighting fuel in quantity—the Germans did not. For *that* we are indebted to the peacetime research and developments of American oil refiners.

This development of iso-octane has been only one of countless chemical achievements of petroleum technology in the long search for better fuels. Ethyl fluid is another of those achievements. It, too, is a prime ingredient in the fighting fuels that power the planes and mechanized armies of the United Nations.

ETHYL CORPORATION
Chrysler Building, New York City

Manufacturers of Ethyl fluid, used by oil refiners to improve the antiknock quality of aviation and motor gasoline.

WE HAVE THE ROADS..LET'S USE THEM!

MILEAGE CAN BE REDUCED . . AND TONNAGE INCREASED!

Imagine a Truck-Trailer, in any of our Axis enemy countries, loaded with food or war materials. It comes to a boundary line between provinces. The local official says to the driver, "Your 50,000-pound load is 10,000 pounds heavier than we allow in our province. Take off 10,000 pounds." Or maybe, "Your vehicle is five feet too long for our laws. Detour around us."

Can you imagine it? We can't. If it ever happened, there would quickly be a new local official.

Now imagine the same situation in the United States . . at almost any State line.

Can you imagine it? You certainly can . . because it's happening hundreds of times daily. This comes from the complex and conflicting trade barrier laws enacted by many States . . restrictions that shouldn't be tolerated in peace-time, much less in war-time.

Much as we hate all that our enemies represent, we must observe that, in their efficiency, they allow nothing to interfere with their war efforts . . while we're suffering needless internal defeats at our State lines every day. We have the roads, but we're not getting full use of them.

Or . . consider tires. Everybody is trying to decrease tire wear. ODT orders increased restrictions on all hauling operations . . and this in the face of increasing tonnages to be moved.

Yet, it can be accomplished. Mileages can be reduced while more materials are transported . . *by hauling bigger loads every trip!*

Why don't we haul bigger loads now? Because laws in many States restrict the size and weight of Truck-Trailers to unnecessarily low and very inefficient limits. On interstate shipments, such laws obviously nullify any more liberal, constructive laws of other States through which the shipments pass. The most restrictive State laws on a given route apply throughout the route, even though the equipment was built to carry the bigger loads allowed in the other States.

For example, a New York operator naturally buys equipment to carry loads permitted in his State—approximately 58,000 pounds. But when he gets a load into or through Pennsylvania, he is permitted only 40,000 pounds in that State. Over 30 percent of the load capacity of his Truck-Trailer is wasted. Putting it another way, it means increasing mileage 45 percent to deliver the same tonnage. Try to picture the confusion and waste if railroads were compelled to operate in this illogical manner.

Will the roads stand the bigger loads? In virtually every case —YES! Occasionally, bridges or other bottlenecks need strengthening, but such weak spots can and should be remedied promptly, so that the roads can give maximum service. "Our roads won't stand heavier loads" is the usual political explanation for weight-barrier laws. Frankly, this is plain "eye-wash," as proven by highway engineers all over the country.

What should be done? All States should adopt an uncomplicated, constructive minimum code of laws . . probably along the lines of the moderate code of the Society of Automotive Engineers.* This code recommends weight allowances lower than those long in effect in a good many States . . in some instances the difference being as much as 30 percent.

Isn't it high time we began getting 100 percent value from all our highways, as our Axis enemies do from theirs?

General adoption of *uniform, minimum* size and weight laws along the lines of the S.A.E. code would be a mighty good step . . as a starter.

*The S. A. E. Code

The Society of Automotive Engineers has formulated and endorsed a size and weight code, basic items of which are, in brief:

- A combination of vehicles equipped with balloon tires can carry 20,000 pounds per axle on improved highways.
- All combinations shall be permitted a length of 45 feet on highways 20 feet or less in width, and 65 feet on highways over 20 feet wide.

All provisions of the S. A. E. code are as simple and straightforward as that . . no complexities about wheel loads, tire loads, gross weight, etc. Furthermore, the S. A. E. *knows* that these weight and size limits are practical before it recommends them . . because the S. A. E. is literally the supreme court of the automotive world. The members are the engineers who design the equipment that runs on the roads. Its non-political, scientific standards in other directions are accepted universally.

FRUEHAUF TRAILER COMPANY ◆ DETROIT

VOLUME XIII—No. 14 **The United States News** WASHINGTON, D. C.

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The National Week ★ ★ ★

ALL SALARIES CUT: PLIGHT OF MIDDLE CLASS

Effect of Higher Taxes, Rising Living Costs on White Collar Workers

How families with fixed incomes will bear burden of war

There is rough going ahead for the middle-class families of America. These are the families living on $2,000 to $10,000 of income. They are office workers, salesmen, teachers, Government workers, executives, retired persons.

In numbers, this class reaches into the millions. It is larger than the class of farmers and approaches in size the class of factory workers. Yet the American middle class has no bloc in Congress to protect its rights. It is organized into no union that can put it into competition with other workers for raises in income.

The result is that middle-class families are about to be squeezed unmercifully.

They are to be checked on one side by a freezing of salaries. No bloc in Congress is struggling to write into law a formula that will protect middle-class incomes. These families are to be hit on another side by drastic tax increases. No escapes are open to them from the full effect of tax raises. They already are hit by rising living costs that cut deeply into budgets of families with fixed incomes.

In effect, the middle-class families of America are in the process of taking a drastic salary cut.

What that cut amounts to can be measured. It varies in its effect between income groups and it varies by individual families. Yet the result in each case is a cut in real income that is matched by no other group in the population. That cut shows how the middle class is to bear the economic brunt of this war. Examples that follow show what is to happen.

In the case of the $2,500 family. The typical family is one of a man and wife and two children. One year ago this family paid no federal income tax. Its $2,500 of income could go for living expenses, for savings in the form of insurance and reserves against the day when children would be ready for college, and for payments on the house. Families in this income group are very numerous. In the past they largely have been salaried families, and salaries have been slow to rise.

Now this family is faced with a tax of $167 against its 1942 income. That means a salary cut to $2,333. The Government figures that the average family in this group has spent $1,958 a year on goods and services. But now, with living costs rising an average of 15 per cent, to obtain the same goods and services this family must spend $294 more in 1942 than in 1941. That means another cut in real income, bringing it down to $2,039. With that cut goes the family savings, unless living standards are reduced. Yet there now is the prospect of forced savings to make this middle-income-class family put aside money during the war, and there already are War Savings Bonds drives that put pressure on the worker to save 10 per cent of income.

It takes pinching and scraping to meet insurance premiums, for payments on the house, to keep a son or daughter in school.

In the case of the $5,000 family. Here is another big group of salaried workers. Taxes against last year's income cut that income to $4,792. Now the taxes to apply against 1942 income will take another big bite. Whether through income taxes plus a Victory tax or through income taxes plus a withholding tax, that income in 1942 is to be cut to about $4,274. This family, in the past, has had a higher living standard than the $2,500 family, the Government estimating that the average family with $5,000 of income has spent $3,445 on goods and services.

Living costs now are higher, so that the same living standard that could be maintained with $3,445 in 1941 now will require an expenditure of $3,962. Between taxes and living-cost increases, the $5,000 family will find its real income cut to $3,757. That leaves little more than $500 for savings. It means that living standards must be cut if insurance payments are to be met, if the mortgage is to be amortized, if children are kept in school, if Savings Bonds are to be purchased.

It probably is to be necessary in 1943

Evans in Columbus Dispatch

DRAFTED AFTER ELECTIONS

Barr in Jersey Journal

MAN AT WORK ON CEILING

to give up the car, to forego a vacation, to reduce the amount of insurance, to give up the idea of college for the children, even to rent the house to a higher-income family so payments can be kept up.

In the case of the $10,000 family. At this level are relatively few families, but there are some in every community. They represent the upper middle class as measured by salary, or other income. Federal income taxes on 1941 income cut this $10,000 to $9,089. Taxes on 1942 income, as now planned, will make a further cut to $7,885.

Families of this income class as an average have spent about $4,960 a year on direct living expenses. Those expenses, with increases in living costs, are up to about $5,704 as a 1942 average, if past standards are maintained. That still leaves about $2,180 for savings in various forms. But families in this income class usually have rather high insurance payments to meet. They have more expensive homes and are faced with higher interest and amortization charges. Their children have gone to more expensive schools.

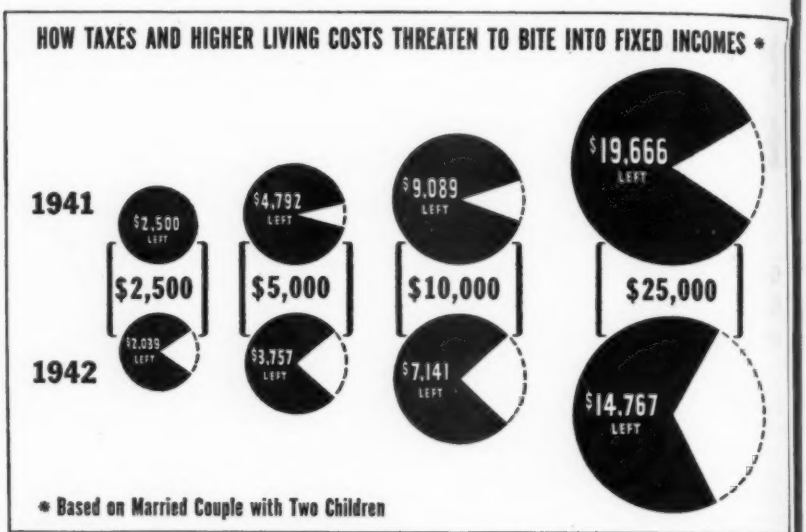
Again, even in this income class, it is going to be necessary to adjust living standards downward to meet fixed expenses and to do the saving that is being forced by Treasury demands for sale of War Savings Bonds.

All across the board, among salaried persons, war taxes and higher living costs are pinching. This pinch extends even up into the higher-income brackets, where the tendency in taxation is to cut deeply into all savings and to force an end to any extravagant spending. The greatest pinch, however, is among middle-income groups.

Wage earners and farmers are not sharing generally in this income pinch.

Take the case of a wage earner. Unlike the salaried worker, the wage earner works for hourly wages. He is paid overtime for hours worked above 40. He is working many more hours today than he was one or two or three years ago. Often he is a member of a union, and through union pressure, his hourly rate of pay has been increased sharply. The Government provides him with a War Labor Board that assures, in case he raises the question, that his hourly rates of pay will be raised to keep up with any important increase in the cost of living.

Salaried workers, as a whole, have enjoyed relatively little increase in individual annual income over the last three years. When tax and living-cost increases are considered, their real income has tended to decline. Wage earners, on the other hand, have as a group an increase of about 40 per cent in real income compared with 1939. As an example:



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Here are two persons, both married with two dependents, and both with $2,500 of income in 1939. The first is a salaried worker, the second a wage earner. The salaried worker today probably has the same $2,500 income that he had three years ago. That income now is to be cut 8 per cent by the 1942 federal income tax and is cut another 12 per cent by living-cost increases (applying the rise in living costs to the portion of income spent for goods and services), so that he is 20 per cent worse off, from an income standpoint, than he was three years ago. Nobody, in Congress or outside, is worrying about his plight, however.

But the wage earner, who is skilled, through longer hours, higher wages, overtime pay, regular employment, may now be making $5,000 a year. Taxes cut that income to $4,274 and living-cost increases cut it still further, but he still has 46 per cent more real income than he had three years ago. Congress and the White House show deep concern for the plight of the wage-earning group.

Or take the case of the farmer. American farmers as a whole in 1941 had a net cash income of $11,800,000,000. In 1942 they are to have net cash income of $15,600,000,000 on the basis of official estimates. This is an increase of nearly one-third in income in one year.

Even after adjusting for the higher cost of things which farmers buy and for taxes, interest, etc., they have an average income increase of 15.4 per cent.

Yet Congress is defying the President and is ready to saddle the middle class with still higher living costs in order to assure farmers that they will continue to get more real income in the midst of war. Political power is being used by a bloc of voters to protect its own real income at the expense of real income, or purchasing power, of a much greater section of the population, but one that is not organized into a voting bloc.

All of this adds up to even more acute trouble in the future for the nation's middle-income salaried workers.

What's going to happen is this. Prices of farm products are to rise still higher, adding to living costs. These rising living costs are to result in continued wage demands by workers, which gradually will be recognized by the War Labor Board. Higher wages, in turn, will lead to higher prices for things farmers buy and to new demands from agriculture for still higher ceilings on farm products.

But: In the middle will be the big salaried group, unorganized, with no means of demanding general salary increases, with existing salaries frozen either by law or executive order, with ability to protect its living standards negligible.

The result is that the economic sacrifices of the present war are to be made by the middle-class group in the population. This group will be able to share in a continually diminishing proportion of available goods, while the farm and labor groups, with much greater income, grab off those goods.

At one time the American middle class was regarded as the backbone of the nation. Facts and figures suggest that this class, unorganized politically, is to be badly hurt during the present war. It lacks a spokesman in Washington. It has no representative and no organization that can make its voice felt in the conferences here that decide who gets what out of the national income and the national supply of available goods.

New Line-Up in Congress: End of Farm-Labor Alliance

Bitter Fight Over Parity Links Agriculture and Business Groups

Government by blocs facing test of power to meet wartime problems

The farmer-labor coalition that often controlled the National Government in the years following 1933 has broken apart. A wide-open split is demonstrated graphically by action in Congress on President Roosevelt's plan to control inflation. A new coalition of farm groups and business groups is growing up to take the place of the old farmer-labor alignment.

The farm wing of the old coalition is turning up with great power in Congress. The labor wing is turning up in a strong White House position. But, in Congress, the labor group, separated from agriculture, is revealing losses of political power. Neither group right now is on speaking terms with the other. Each is bent upon safeguarding its economic interests in the war period.

All this is the consequence of the battles in Congress in the last few days over the President's inflation-control bill. This fight developed into one of the bitterest of the present wartime Congress and deepened a wedge that already had been driven between formerly friendly factions by conflicting interests. Political currents of future importance have been set in motion. The background of these events:

Farmer-labor split. Since 1933, the basis of the political power of the Roosevelt Administration has been the support of the low-income groups, especially the wage workers and the farmers. But while in the first years of the Administration they stood together in enactment of a series of laws for the benefit of farmers and wage workers, of late there have been increasing signs of cleavage between these two groups.

Now an issue suddenly arises that spreads this gradual cleavage into a wide-open split. This issue is the farm bloc's proposal to revise the definition of "parity prices" which it is the Government's policy to support as being fair to farmers. The farm bloc's new definition would include an allowance for wages paid by farmers, and for the value of the labor of the farmer and members of his family. Farm bloc leaders were backed by spokesmen of business in warning that farm production cannot be maintained unless prices are at levels adequate to pay for hired help and other costs of running the farm.

This issue has become the heart of the controversy in Congress over the price-control bill. The reason is that it would push parity up to 112 per cent of its present level, and thus completely nullify President Roosevelt's appeals to get rid of a present 110 per cent of parity requirement as to farm price ceilings. Estimates of the amount that this could add to the American consumer's annual food bill are as high as $3,500,000,000, or even $4,000,000,000.

On this issue the farm bloc won an overwhelming victory in the House. When the House wrote in the new definition into the bill by a vote of 205 to 172, the measure became the farm bloc's bill. Then the bill was passed by the House, 284 to 96. The issue seems headed for compromise in the Senate, so the defeat of labor in the House may be offset. But the split in the farmer-labor coalition is likely to remain unhealed. The new situation:

Labor in minority. Labor's strength in the executive branch has proved labor's weakness in Congress. Farm spokesmen feel that pro-labor leanings of the executive branch may give labor the edge in administration of broad powers over wages and prices, unless those powers are strictly limited as they affect the farmer. This view has brought the two parts of the old farmer-labor coalition into a head-on collision.

The result is that, in the House at least, labor has been pushed into a minority position. In the House, scarcely one-fourth of those voting went along with labor against the farm bloc's bill. The opposition got 57 of its 96 votes from New York, New Jersey and Pennsylvania, 17 more from industrial districts of the Midwest, 9 from New England and a scattering elsewhere. From 19 farm States, the opponents got not a single vote. On the question of a new definition for parity, the opposition lost more than half the Democrats, while the Republicans voted with the farm bloc nearly two to one.

So a new coalition is appearing, this time between farmers and spokesmen for business and other groups. If cemented, that alignment is full of future political possibilities.

Bloc rule in wartime. In the background, some in Congress see a broader question of the adequacy of bloc rule to meet the Government's problems in wartime. Members are pointing out that, if Congress does not provide for real inflation control, the President will push Congress aside and act under his war powers, as he promised. This, it is felt by some, would mean abdication by Congress, for the duration of a war that may last for a long time, of the job of shaping the policies of the Government.

—Acme

CONGRESSMEN FULMER, BROWN, STEAGALL
House farm bloc defied the President

WAR BOOM FOR LABOR UNIONS: RICH HARVEST IN MEMBERS, DUES

Millions of Dollars Piling Up in the Treasuries of CIO and AF

Growing funds as basis of plans for postwar expansion of organizations

This year of war has been the most profitable in the history of labor unions. Dues collections are running at a rate in excess of $144,000,000 a year. This is more than $24,000,000 a year better than in 1941. And the war has erased many an item from the expense side of the ledger by eliminating strikes and making it easier to collect dues.

Government support has helped to open the way to a part of this income. The door to a job on a Government project often has led through the office of a union. And union maintenance and checkoff agreements, either voluntary or prompted by War Labor Board decisions, are aiding in collection of dues.

At least three CIO international unions have a monthly income approximating $500,000, each, which moves into their cash drawers. That means that, each year, the United Steelworkers of America take in some $6,000,000 or better. The United Automobile Workers collect about the same. And the United Mine Workers just a shade less. Almost half a dozen others take in $1,000,000 or better.

These funds are not taxable. They are exempt, just as are dues paid to a trade association, or money paid to a church. But where the total funds that go to trade associations and churches are comparatively small, those which are being piled up by the unions are growing into huge pools which will make their weight felt in all sorts of ways after the war. Under John L. Lewis, the UMW made political loans. The CIO is being ruled by other influences now, but the money is there and the opportunity remains. Labor leaders speak of using the money for research, for organization, for health, and for postwar planning.

Some unions are investing their funds in War Bonds. Others are moving into more expensive quarters. At least one local has a marble home with the Corinthian columns that used to signify a banking establishment. And the CIO has moved its Washington headquarters into the building that used to house the Republican National Committee.

Labor leaders, collecting material for their approaching conventions, speak guardedly about the inflow of wealth. They are fearful of what might be said about it. And they call the era that is producing it a mixed blessing in which they think that perhaps the woes predominate.

They say the war has brought a multiplicity of problems along with the question of what to do with all of this new money. The turnover of workers is high. Many new workers come from white-collar and farm groups which are not union-minded. And the draft is taking its toll of local union officials. They are not easy to replace.

By a mass induction of members in basic industries, the CIO has stepped past the AFL, if not in size of annual income, certainly in numbers. But the CIO is cautious about publicizing its figures.

The best official estimate puts the total membership of CIO unions at better than 6,000,000. This, roughly and in round numbers, is a gain of 1,000,000 for the last year. AFL figures are more specific. Its present membership is 5,482,581, a gain of 913,525 for the year. AFL initiation fees and dues generally run higher than those of the CIO, however, and the incomes of the two probably are not far apart.

But the CIO money stacks are higher than those of the AFL. This is because the CIO comes closer to piling its money in the same place. With the AFL, the bulk of the fund stays with the local union. The split is about 70 per cent for the local and 30 per cent for the State and international.

—Wide World

R. J. THOMAS
His auto workers . . .

—Harris & Ewing

VAN A. BITTNER
. . . and his steel workers . . .

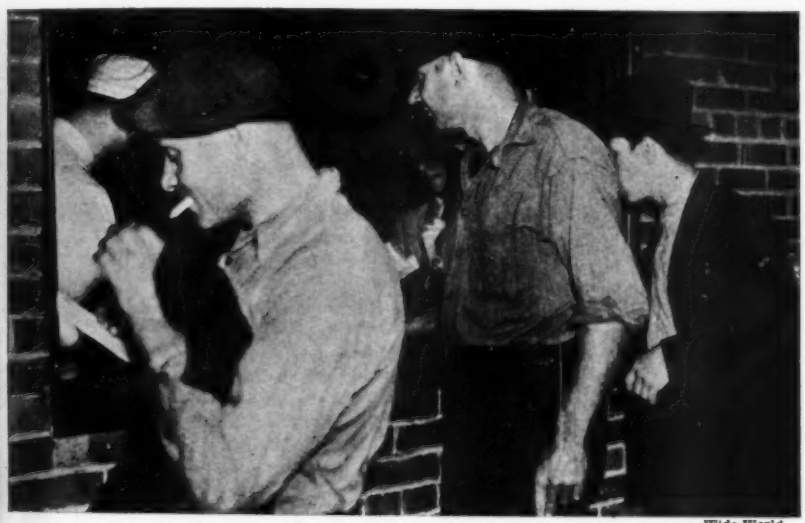
tional agencies. With CIO, the bigger portion goes to the international unit and the smaller share stays with the local. The division is about 25 per cent for the local and 75 per cent for the international.

This division of local funds reflects a major difference in the outlook of the two organizations. AFL locals retain all powers save those that have been yielded specifically to the upper agencies. Those yielded chiefly are powers needed to maintain a common front and the fabric of a national organization. AFL locals speak much more loudly on matters of policy than those of the CIO.

Thus, the AFL locals will do most of the spending of AFL money in their own localities. The locals are picking up better than $50,000,000 this year. They will

cide what to do with it. In some cases, the share of the local may be large enough to be of considerable influence. But the AFL moneys are so diffused among these locals as to be of little significant national force. The CIO funds, stacked in a few places, are sources of tremendous potential power for the future.

And, in spite of the division which sends the largest share of CIO money to the international unions, the United Automobile Workers have at least one local whose income is a problem. One local in the Ford plant has 80,000 members. This means a minimum income of $80,000 a month, of which at least $20,000—or almost a quarter of a million a year—goes to the local. The income is assured by a checkoff. The wealth of this local, plus various internal influences, is providing UAW with quite a problem. But it does not have the independence of action that an AFL local does.



—Wide World

PAY DAY AT THE MILLS
. . . give their unions $6,000,000 a year.

The tumult over initiation fees grew partly out of this independence of AFL locals. The AFL building trades workers virtually ruled the hiring at many Government construction projects. And the local unions sometimes hiked their initiation fees. Sometimes, they simply held to the old fees, but these were fees that had been set high purposely in the old days, when jobs were scarce and the unions wanted to hold their own membership down to limit the number of qualified workers and increase the opportunities for getting jobs.

After the outcries about high initiation fees, some of the unions lowered their charges. But others stood their ground. Here the local was the supreme ruler of its own terrain. No outsider from the Federation could tell it what to do. And some of the locals argued that membership was like buying stock in a corporation. The stock was worth the going price. And, if the demand ran high, so did the price.

AFL initiation fees still run to $75 for carpenters' unions in many places and laborers have a fairly uniform fee of $25. By and large, the fees charged bricklayers, boilermakers and similar workers were not exorbitant in peacetime and not many of them have changed. Some of the other unions, like electricians, however, have high insurance charges which figure into the fees, and into the dues.

Similar special benefits have helped to build up the charges assessed against many AFL workers. The butchers' union has a ranch. Garment workers have a home. Printers and pressmen have homes. One or two of the craft organizations have hospitals. Some of the AFL intake in these prosperous days will go to such activities.

AFL dues range from $1 to $1.50 a month for unclassified new workers. Machinists charge from $1.25 to $2.50 and $2.75 a month. Most of the long-established unions charge from $2 to $2.50 a month. Some reach as high as $6 or $7. The average for teamsters is $2. High dues usually reflect cost of insurance and outside benefits.

CIO initiation fee is fairly uniform at $3. The usual dues are $1 a month, but some unions charge $1.25 and $1.50. The CIO, unlike the AFL, does not go in for insurance and special benefit plans.

As a younger and competitive organization, the CIO set out to obtain mass organization. Its income is drawn in small sums from many members.

With the removal of the strike threat by promises of both CIO and AFL to try to maintain labor peace during the war, labor lost both its most potent weapon and one of its biggest expenses. They cannot promise potential new members that they will fight for higher wages or take up strike cudgels to win better working conditions.

But strikes were expensive. The Remington-Rand dispute, which dragged along for two years and brought AFL workers out on strike, cost the unions $1,000,000. In general, there are not only the funds contributed to the families of the men out on strike, and the cost of keeping up the picket lines, but a huge loss of wages accompanies any big-scale strike.

Many of the other expenses have continued and expanded, however, with the war, Van A. Bittner, executive vice president of United Steelworkers, figures that it costs between $300,000 and $400,000 a month to administer the affairs of a union of the size of his own, or that of R. J. Thomas, president of United Automobile Workers.

A large share of this goes to the maintenance of a staff of organizers, to a crew of trouble shooters, to researchers and to office help. In these days of trying to keep workers in line in the face of big and small grievances, or sometimes fancied grievances, the union staff is kept busy. It argues that union maintenance agreements, which assure a continuance of organization and a steady inflow of dues, leave the union free to co-operate with management to iron out these troubles and promote a real production job.

The salaries of these and other officials cut into the fund that is being built up. Philip Murray, for instance, as president of the United Steelworkers, gets $20,000 a year, but Mr. Bittner says that is less than a fifth of the average salary of big steel officials and he feels that Mr. Murray's work compares favorably to that of such officials.

More than one union is having difficulty in finding leaders and organizers. Letters pile up at CIO headquarters asking what to do about it. To accomplish anything, the head of a plant union must have the confidence of his men and of the plant management. Yet many of these are being drafted into the armed services.

Three years of war will give the unions half a billion dollars in dues. Financial statements are unrevealing, but all of this will not go out in salaries, in education, in organizing and for health programs. Its weight will remain to be felt after the war.

XUM

America's Separate Wars In Struggle for the Pacific

Army Directs New Guinea Fight While Navy Rules in Solomons Battle

Single Japanese command aiming further offensives toward Australian area

The United States is waging two wars in the Southwest Pacific. One is a Navy war to keep the foothold won by Americans in the lower Solomon Islands. The other is an Army war to hold the big Allied base at Port Moresby on the South Coast of New Guinea.

The two battle areas are so related that in the long run the nation winning in one has a big lead toward winning the other. In both wars, the location of the whole Southwest Pacific front is at stake. Both are being fought against the same enemy, whose forces are under unified command of the Japanese Navy.

America's twin wars are under separate commands. In charge of the Army's war in New Guinea is General Douglas MacArthur, commanding the Allied forces in the Southwest Pacific, which includes Australia. In charge of the Navy's war is Vice Admiral Robert L. Ghormley, commanding in the South Pacific, which includes New Zealand.

The two wars are hard fought and the outcome of each still is undecided. If the Japanese win in both, new bases for attacks upon Allied shipping lanes and for launching an invasion of Australia are in their hands. If the Japanese lose, the south anchor of their whole Pacific line is shaken loose, and that line will be thrown back to a new location farther from the approaches to Australia. The two wars in detail:

Navy war in the Solomons. The forces under Admiral Ghormley have won springboards for new offensives in the Southeastern Solomon Islands. But the Japanese, with the northwestern two-thirds of the island still in their grip, are fighting to recapture those springboards.

So right now the Navy's big job is to hold what has been taken. The Marines have beaten off the Japanese trying to retake the airfield that they built on Guadalcanal Island. American bombers have broken up several Japanese naval attacks.

Military men are convinced Japan is ready to risk much to win back mastery of the lower Solomons.

Army war in New Guinea. Seven hundred miles away, General MacArthur's forces in New Guinea are having their hands full defending Port Moresby, the Allies' main stronghold on New Guinea.

The Japanese scaled the rugged Owen Stanley Range that was to have been Port Moresby's impassable wall of protection. They filtered along the steep sides of the mountain passes and slipped beyond the Australian troops standing guard there.

Now the Japanese are fighting down the southern slope toward the Allied base. If Port Moresby is lost, New Guinea is lost.

Two in command. Two men are in charge of the United Nations forces fighting the Japanese in that part of the world. Neither is answerable to the other in planning moves in that fight.

General MacArthur, based in Australia, is answerable to the Chief of Staff and through him to the President. He is in command of all forces of the United Nations in the whole vast area defined in military orders as the Southwest Pacific. This includes the whole continent of Australia.

Admiral Ghormley, directing the Navy's war, with his base in New Zealand, is under command of Admiral Chester W. Nimitz, commander of the Pacific Fleet with headquarters in Hawaii. The Southwest Pacific area was established in a way that did not include New Zealand, New Caledonia, or the adjacent islands. The area defined in naval orders as the South Pacific was established by the Navy to include all these islands.

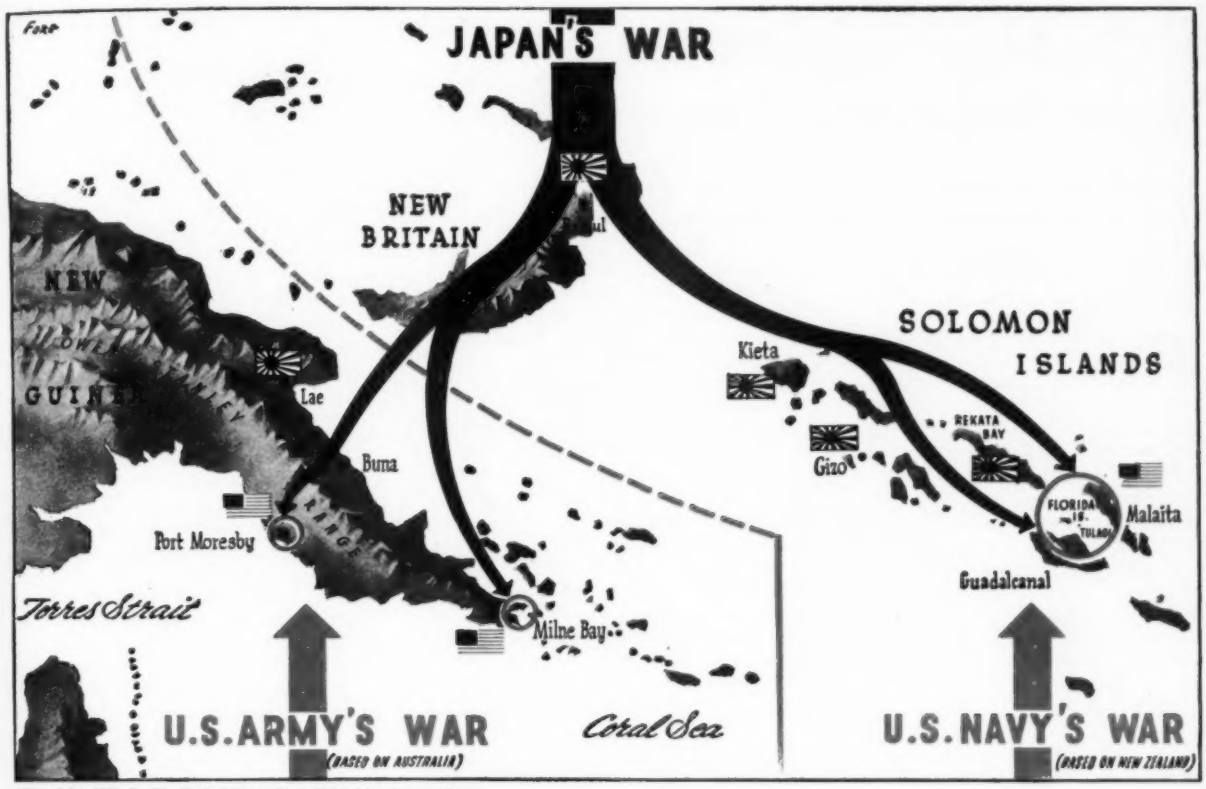
Unity versus separation. As to command, this arrangement means two things. First, it means complete unity of command within each area. Thus not only the naval forces in the South Pacific are commanded by Admiral Ghormley, but all the air and land forces as well. And not only the air and land forces, but also all the naval units operating out of Australian bases are under command of Gen. MacArthur.

But this means, second, separation of command as between regions. No one except the President has authority sufficient to give orders to both the commanders of the two wars being waged in New Guinea and the Solomon Islands.

In practice, General MacArthur and Admiral Ghormley are understood to have kept each other informed of plans being made for attack and defense. General MacArthur's air forces have co-operated with Admiral Ghormley in fighting in the Solo-

—Acme

MARINES IN THE SOLOMONS
Their job: To hold what they have taken



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mon Islands and in the Coral Sea. But, in event of a difference of opinion, no one superior officer except the President himself could give the orders to them that would get them in step.

Division in planning. Planning the big moves of war is supposed to be a job for the general staff and the President. But actually field commanders play an important part.

General MacArthur and Admiral Ghormley are known to have their own ideas about how to wage war in the part of the world where they are operating now.

General MacArthur, on reaching Australia from the Philippines, announced his plan. He proposed to make Australia the base for a drive back through the East Indies to the Philippines to liberate the imprisoned men who had fought under him on Bataan.

Admiral Ghormley is widely known as a planner of war in the South Pacific. His plan, though not announced beforehand, has been revealed by naval action. His offensive in the Solomons has advanced, not from Australia, but from New Zealand and New Caledonia as bases. The Ghormley drive now is pointing straight toward the big Japanese base at Rabaul, which is a special target of General MacArthur's bombers from Port Moresby. The drive is headed in the general direction of the Philippines, which General MacArthur has defined as his objective.

Thus, the separation of commands of two neighboring areas may produce two different sets of plans for waging war in the same part of the world.

Where from here? The wars in the approaches to Australia are not working out according to advance notices. General MacArthur, when looking forward six months ago to leading an offensive from Australia, said the measure of that offensive would be the amount of materials and the forces of men sent to him.

His offensive has not been started. The men and goods asked by Gen. MacArthur apparently have not been forthcoming.

But the Navy has had the men and the supplies. The largest force of American Marines ever to engage in landing operations was sent into the attack on the Solomons. The first offensive of American land forces in this war was launched not under direction of General MacArthur, but of Admiral Ghormley.

Plans for the offensive against Japan in that part of the world now center around the Navy rather than around the Army, even when they involve large land forces.

If the Navy's land forces should move against New Guinea, which is in General MacArthur's area, two questions would be raised directly: One, as to which war was which, and the other, as to unity of command in that part of the world. Unity of command in the Pacific would be under Admiral Nimitz if this is to be a Navy war.

Old problem, new setting. The problem of unity of command comes up in every war and in nearly every theater of fighting. A proposal pressed by some military leaders in Congress would attempt to end division of command as between Army and Navy commanders by combining the Army and Navy under one unified Department of National Defense.

The problem of unity of command comes up in a different way in Europe. There allied forces of several nations are grappling with the problem. The question is whether one supreme commander can be chosen before a series of disasters due to disunity drives the Allies to it, as in World War I. In Europe as well as in the South Pacific, the different wars really are one. That is considered to be the reason for demands for centering authority in one commander.

Shift of WPB Leaders: New Industry Controls

Direct Allocation of Needed Materials Planned As a Substitute for Present Priorities System

Bernard Baruch's plan for joint industry committees among expected changes

Businessmen face another change in the rules under which they operate. In the past they have functioned under regulations of a Defense Commission, an Office of Production Management, a Supply, Priorities and Allocations Board and a War Production Board. They have had priorities, a Production Requirements Plan and a touch of allocations.

This time they are to get more of WPB, but under new management. After two years of war preparation and 10 months of war, businessmen face the prospect of operating under a war-control machine that was designed by Bernard M. Baruch in the last war. This design, refined by 20 years of study after that war, was copied by Germany and England, but was rejected by this Administration until now.

The change is to bring with it new personalities and new methods. The shift in personalities is to work out as follows:

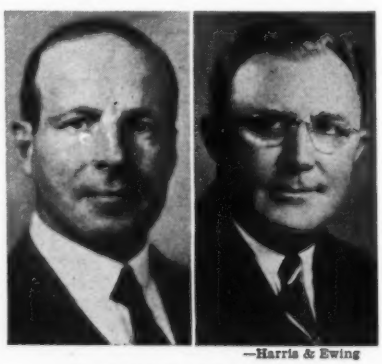
Donald M. Nelson. Mr. Nelson is to remain as chairman of WPB. However, he will devote himself largely to over-all policy. He will deal with broad issues, attend many meetings, handle public relations. He will not be so directly concerned with industrial operations. This job has been assigned to two new WPB officials.

Ferdinand Eberstadt. Mr. Eberstadt moves to WPB from the chairmanship of the Army and Navy Munitions Board. In that job, he untangled Army and Navy schedules and smoothed priorities. He is a driver, forceful and hard boiled when it comes to getting results. He sees eye to eye with the armed services and knows definitely what he is to do. His job is to see that the supplies are on the spot when war contractors want them.

Charles E. Wilson. Mr. Wilson leaves the presidency of General Electric Co. to become another WPB vice chairman. He heads a new Production Executive Committee that contains the nation's top war procurement officers—Lieut. Gen. Brehon B. Somervell of the Army, Maj. Gen. Oliver P. Echols of the Army Air Forces; Vice Admiral Samuel M. Robinson of the Navy, and Rear Admiral Howard L. Vickery of the Maritime Commission. Mr. Wilson's task is to set production schedules for all the services and see that they are followed through.

Other personality shifts also are taking place. Hiland G. Batcheller leaves the presidency of Allegheny-Ludlum Steel Corp. to Head WPB's important iron and steel branch. Many top men in the Army and Navy Munitions Board will follow Mr. Eberstadt into WPB, and other Army officers are getting key WPB posts.

But the shift in personnel is far from the complete story. For businessmen, the most important questions are: What is to happen to raw material controls; to production plans; to methods of operation? At the moment nothing operates satisfactorily, and for three successive months war output has fallen behind schedule. The following developments are ahead:



—Harris & Ewing

EBERSTADT AND WILSON
New vigor for war production

Priorities. As now applied, the priorities system is to be scrapped. It is all but useless anyway because of a wild scramble to get materials. Priority holders rush to supply houses in the same manner that Eastern motorists raced to service stations before gasoline rationing became orderly. And if their priorities are not honored, they get the services to raise the ratings. The result is a complete breakdown in the distribution of all kinds of materials.

PRP. The Production Requirements Plan was WPB's first answer to the priorities breakdown. Metal users were supposed to schedule their requirements three months in advance and get allotments from WPB. Producers were supposed to follow a complicated code to determine where every item finally was to go. This program began to crack before it got under way. Fourth-quarter steel applications, for example, called for four times as much steel as there was on hand. PRP is to disappear gradually.

Allocations. Now in the WPB mill is a plan whereby war contractors will receive direct allocations for the materials they need to complete their contracts. Production schedules will be determined by Mr. Wilson while Mr. Eberstadt will arrange supplies to meet those schedules. The change, however, will be slow, with major war contractors entering the program first.

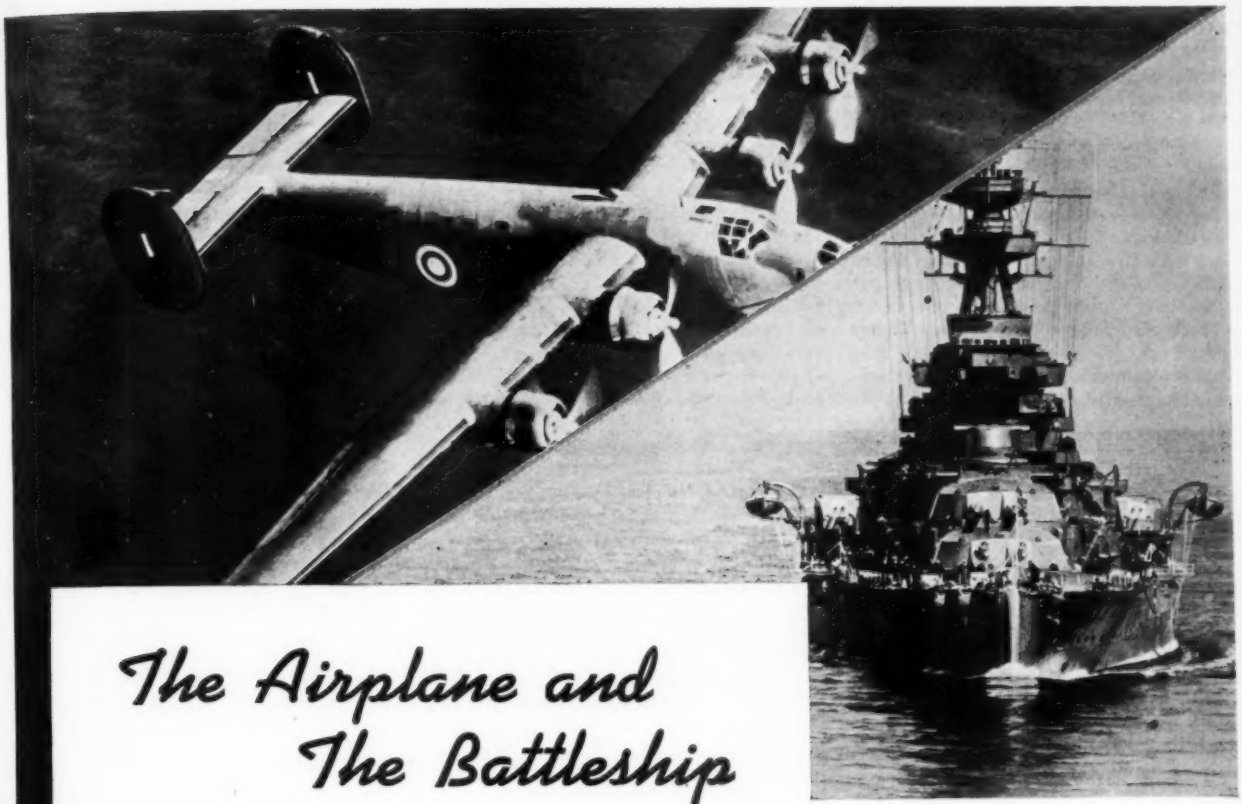
Warrants. The allocations system promises to operate under a warrant plan. This will function like a checking account at a bank. A contractor will be given warrants for fixed amounts of material—steel, copper, tools, etc.—when he receives his contract. Then he can "cash" these warrants with the producers or distributors of the materials he needs. *But:* As in a banking account, the contractor cannot "overdraw." The effect will be a rationing system for each producer.

Industry committees. Also ahead is the creation of more effective industry committees within WPB. This is the essence of the Baruch plan and has the support of Mr. Eberstadt. These committees are to be composed of representatives from industry, spokesmen for the armed services, and a WPB civilian in the middle. The industry will report on available supplies, the services will submit their demands, and the WPB representative will decide the arguments.

Contracts. Actual orders for weapons and supplies will continue to be placed directly by the Army and Navy. They remain as the nation's biggest buyers, but their buying policies are to conform to programs fixed by the WPB.

In effect, changes now taking place amount to another reorganization of war production machinery. The military and civilian establishments in Government are being merged into an economic command. Top management remains under civilians, but the board of directors will include men from the armed services.

These changes will not be felt immediately in the field. Businessmen will continue to receive priority ratings and to fill out their present Government forms. But, in the months ahead, a gradual tightening will take place and the voice of the military will carry more and more weight.



The Airplane and The Battleship

BY REAR ADMIRAL G. J. ROWCLIFF

Member of the General Board, U. S. Navy

(For the first time since war began, the naval problems of modern warfare, emphasizing the relationship of all weapons to one another, are outlined by a member of the General Board of the U. S. Navy. We believe this is the first impartial and thorough presentation of the subject laid before the public.—*The Editors.*)

THERE has been considerable discussion, some controversy, attended by the resurrection of ancient and contentious ghosts, concerning the relative merits of airplanes and battleships, or perhaps more broadly, aircraft and surface ships. The controversy has centered more importantly around the sea-going implements of traditional power, for not so much has been said as yet concerning the relative merits of airplanes, tanks, artillery, and fortifications or other military weapons employed ashore.

The trend of the discussion, for ostensible progress, seems to indicate that those who are advanced thinkers or who fancy themselves as advanced thinkers, and certainly the dreamers, as has always been the case, tend to foster or to demonstrate verbally the obsolescence of the older weapons of which the battleship is the symbol, in favor of the newer weapons of which the airplane is the symbol. Generally speaking, the responsible military authorities have not expressed themselves, partly because, perhaps, they are too busy, and partly because they too well realize the painful realities which in practice often vitiate theoretical positions and discussions. The argument in general has been carried on by those who hope to make war cheap or simple, by those who hope to make their dreams come true, by those who for various reasons are propagandists for one side or the other, well mixed with a considerable amount of wishful thinking and limited understanding.

It is the purpose of the present article to promote common understanding, to present a picture by outlining the general truths as simply as may be, by no means as simply nor as completely as might be desired.

It is not the purpose of this article to make a case for any single weapon of war; nor yet to slow the wheels of progress; but rather, now that we have a mean war on our hands, to promote straight thinking among intelligent people who sometimes are susceptible to propaganda and their own enthusiasms. Each of the following paragraphs has a purpose, and it is recommended that such consideration be given to each that its significance may be appreciated. The comments herein are personal in origin and general in application.

On the Nature of War

History appears to record somewhere between seven and eight thousand wars of one sort or another. The same sort of flesh and blood has taken part in all these; but in the early wars men with limited resources made personal and bloody contact with other men of similar resources so that in the end human strength or human numbers would prevail and have it over with in a conclusive manner. As time has gone on war has become increasingly a matter of total resources and of mechanized apparatus, much to the advantage of those nations which possess natural resources and the skill to make use of them through cleverness or industry. Indeed, the natural resources themselves are most potent underlying causes of controversy and belligerency.

As always, the nature of the opposing belligerent, his resources and his location, determine the nature of the weapons best suited to overcome him. With this in mind, leading powers have tried to prepare themselves against their most probable enemies

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in case they should become involved in controversies. The effect of this, in anticipation of the modern war, is to produce preparation of material, mechanized apparatus and trained personnel in accordance with the resources of the individual nation and its position with relation to possible enemies. A further result is more or less to standardize the forms of apparatus as influenced by domestic skill.

The nature of the preparation is powerfully influenced by consideration as to whether one's country intends to remain on the defensive within its own reasonable and restricted zone of influence or whether it is to take the offensive against a distant enemy, or even to engage in aggression abroad. These are primary considerations which must and do influence the nature of preparation.

It is as well to note at this point that in the last twenty years there have been no two pieces of national belief so well implanted (for various reasons) in the minds of American people as the two concepts that "our boys shall not be sent abroad to fight again," and inasmuch as we are a democracy which does not seek empire, "we shall build a Navy for defense only." Such ideals may be sound enough when national behavior is consistent therewith, but from the military point of view they are unsound tenets because, if a distant enemy is to be defeated, it undoubtedly will be necessary to go where he is to defeat him. So, distance, transportation, communications, existing resources become important.

On Political Objectives

Granting that the statements made above are correct, it follows that political objectives, including moral crusading and self-preservation, should be consonant with preparation if disaster or expensive conflict is to be avoided. If the ways and means of enforcing national objectives are lacking, either the objectives must be modified or suitable preparations must be made in due time. Similarly, if there is a tendency to bestow distasteful advice and regulation, however meritorious, upon another autonomous nation, suitable consideration should be given to the relative forces available and to the logical conclusions resulting from manifestations of displeasure thereat. *Where* the prospective enemy may be is no less important than *what forces* he may have available.

On Mechanization and Nature

As men have tended to avoid physical combat by substituting preliminary work in a factory and by extending distances between combatants in the field, some simple truths of natural philosophy have exerted their influences more and more powerfully, inasmuch as all mechanized apparatus requires material, weight, space, fabrication and highly trained operating personnel.

Mechanized apparatus embodies three elementary military characteristics which are functional, whether active or passive.

Of these, the most important is the armament which visits destruction on the enemy as exemplified by the tank gun, the airplane bomb, the submarine torpedo, the battleship gun, or the howitzer of the artillery.

Second, there is the protective element which may be passive, as exemplified by the plating of tanks, the pilot's armor in planes, the heavy armor and compartmentation of battleships and the shields of artillery when used. There are also active elements of defense such as speed, maneuverability, gun fire, and so forth.

Third, if the weapon is mobile, there must be provided a power plant for propulsion, and this mobility is divided into the two important elements of speed, which requires a certain design of machinery, and radius of action which requires capacity for a certain fuel; while the nature of this fuel largely controls all the other military characteristics. Thus a coal-burning battleship could have no such capabilities as our newer ones, and the thought of a coal-burning plane or a coal-burning tank just makes us smile.

All of these elements necessitate previous preparation in detail. After they are assembled they have a composite military value. However, in the nature of mechanical apparatus they must be combined by design in proper proportions which must be pre-determined, as based on the desired operational characteristics, on the availability of material, on the skill of the manufacturer, and on the medium which is to support the apparatus in action. It is a simple manifestation of natural philosophy that when a mechanized creature can rest on the earth where it has a solid foundation, provided enough suitable terrain can be found, the three elements cited above can be combined to a superlative degree not possible when the creature has to be floated in the water or borne in the air. Thus, we should be able to construct a mobile fortress moving across the country which would demonstrate military power and stamina superior to anything which can be floated in the water or carried in the air. Practical considerations like terrain and roads limit the application of this natural truth.

When we go to sea we find that on a given tonnage only two of the major characteristics cited above can be combined in a ship in considerable degree, and even so that great compromises and sacrifices must be accepted if the ship

Rear Admiral G. J. Rowcliff, U. S. Navy

Rear Admiral G. J. Rowcliff, United States Navy, graduated from the U. S. Naval Academy at Annapolis in 1902. He is also a graduate of the U. S. Naval War College at Newport; has served ashore as a member of the War Plans Division of the Office of Naval Operations; as Assistant Budget Officer for the Navy Department; as Head of the Department of Engineering and Aeronautics at the U. S. Naval Academy; as Commanding Officer, U. S. Naval Training Station at Newport, R. I.; and as Director of Naval Communications under the Chief of Naval Operations, Navy Department.

At the outbreak of the first World War, Rear Admiral Rowcliff was Gunnery Officer on the staff of Vice-Admiral D. W. Coffman, U. S. Navy, Commanding the Battleship Force of the U. S. Atlantic Fleet.

During the war, he served as Gunnery Officer on the staff of Rear Admiral Hugh Rodman, U. S. Navy, commanding the Sixth Battle Squadron of the British Grand Fleet, and also as Executive Officer of the U.S.S. *New York*, the flagship of the Sixth Battle Squadron. He was present at the surrender of the German High Seas Fleet to the Grand Fleet off the Firth of Forth.

Since then he has commanded the 41st and 42nd Destroyer Divisions of the Scouting Fleet; served as Fleet Material Officer and as Fleet Tactical Officer on the staff of Admiral R. E. Coontz, U. S. Navy, Commander-in-Chief, U. S. Fleet; commanded the U.S.S. *Cincinnati;* commanded Destroyer Squadron 4, Battle Force.

He holds service medals for the Spanish Campaign, Mexican Campaign, and the World War; and was awarded the Navy Cross after the World War.

His commission as Rear Admiral dates from January 1, 1936.

On June 1, 1936, he was appointed Judge Advocate General of the Navy by President Roosevelt and was relieved from this duty to go to sea on June 20, 1938.

On July 13, 1938, he took command of the Cruisers, Scouting Force, U. S. Fleet, consisting of four divisions of 10,000-ton cruisers, with additional duty as Commander Cruiser Division 5. His flagships were U.S.S. *Chicago, Tuscaloosa, Houston.*

On October 1, 1940, he assumed additional command of Cruiser Division 4, vice Cruiser Division 5, retaining command of Cruisers, Scouting Force, then operating as a part of the U. S. Fleet in the Hawaiian Area.

Admiral Rowcliff is especially interested in and tends to specialize in fleet tactics, particularly of the light forces, and in gunnery, particularly anti-aircraft gunnery; is air minded; likes to fly; is not a qualified pilot; believes in integrated forces of ships and planes for naval purposes.

On March 9, 1941, he assumed duty as Member of the General Board, Navy Department, Washington, D. C.

is to float and to be of reasonable size. In building this ship all three characteristics must be limited; one or two of the characteristics may be enhanced at the expense of the remainder. Thus a battleship normally carries a heavy armament, heavy protection, and quite moderate speed; while in a destroyer—of small tonnage—protection and, to some extent, armament are sacrificed for speed. In the nature of things the larger the ship is built the higher the degree of all three elements which can be embodied in her, and of course this accounts for the increase in the size of ships (and planes) developed over a period of years.

When the mechanized creature must be borne in the air it is found that more drastic limitations must be accepted and more extensive compromises made, for in general only one of the three important elements can be developed to a high degree, which accounts for the high speed of planes, the limited weight-carrying capacity and the relatively weak armor for protection of pilot, motor or gasoline. The plane, however, due to its nature, possesses two characteristics, one favorable and one unfavorable, which are not shared by other mechanized units at sea or on land. The plane by climbing stores within itself a potential energy due to its position, which later can be used to good advantage either in the dive or in dropping a bomb. However, the advantage of position entails the danger that damage, or casualty to machinery or pilot, may bring the plane down, whether on land or sea, with varying complications and implications. A plane cannot stop in the air and consequently can neither hold ground in a military sense nor can it hold an advantageous position for longer than an instant; and thus some other creature must be used to consolidate the gains, if any.

The laws of nature absolutely exact that every piece of mechanized equipment be a compromise in design based on judgment as to *what it is to accomplish during its life time.* It is to be remembered that the same materials are available for all equipment and that the same skill of fabrication is available for all equipment, and thus the same laws tend to require that *all weapons, no matter of what sort, arrive at some balance of potentiality when combined in due proportion and properly used.* The problem, therefore, reduces itself to arranging *so that there are present at the conflict those weapons most suitable for the particular occasion,* and *that those which happen to be present are used with the utmost skill.* Let it be noted that the weapon must be present and in effective use; it is not enough that it be a happy dream in the mind of an inventor or a designer, or that it be a dormant mass in the hands of the tactician.

The unalterable laws of time, distance, velocity, gravity, specific gravity, expansion of gases, hydraulics, aerodynamics, thermodynamics, and so forth, absolutely control us, and complicate our problems in all weapons and apparatus. They are our masters, but, because these laws behave consistently, we can and must learn how to use them in the design of weapons. Let it be noted that many features of design are inter-locking and inter-dependent so that long prearrangement is necessary; and that fabricated articles once critically designed and built are not, as a usual thing, profitably alterable—they can be just inefficient or obsolete.

Thus nature, in a roundabout way, brings us back to the essential wisdom of human beings in preparation for war in the design and fabrication of weapons, and in the use of mechanized weapons.

On Types of Apparatus

Each of the types of ships (planes) of the Navy is built to accomplish the purpose of destruction, *using one or more of its outstanding characteristics* which are deliberately built into the ship so as to give that particular type an advantage in specific particulars. By way of illustration some of these will be mentioned briefly, for it is impossible to discuss them all exhaustively in a readable article.

The ability of a submarine to submerge is its outstanding quality. Silence, reduced visibility and stealth are valuable assets. On the other hand a submarine when submerged too far is essentially impotent and is a helpless prey to the proper sort of counter weapons. Physical facts make the submarine somewhat of a lone wolf in operations. The design of a submarine depends on considerations of positive and negative buoyancy, and on the limitations of power plants when under water, which are so critical as to make design a matter of extreme compromise. It is physically impossible to build a submarine which will stand the pressure at great depths, or to provide a submarine with any appreciable degree of protective armor or any great speed; and every torpedo, every round of ammunition and every ton of fuel put into it are matters of detailed consideration. Nevertheless, a submarine has a usefulness in modern warfare which is its own and which is not shared to any considerable degree by any other type on account of its peculiar properties.

Similarly the outstanding characteristics of the destroyer are its speed, its relatively small size tending to handiness in maneuvers and to invisibility, the silence of its torpedoes and its ability to carry depth charges quickly over submarines.

Increasing the tonnage, and therefore the possibility of enhanced qualities, we have the cruiser with still greater power than the destroyer, greater destructive gunfire, greater stamina due to compartmentation and thickness of plating, considerably increased radius of operation, and greater seaworthiness; but still with no great amount of armor for the protection of sides and decks.

Increasing the size still further brings us to the battleship, of which the outstanding characteristics are crushing gunfire against all types of surface craft, considerably increased protection against damage by any naval weapon, as permitted by increased tonnage, and relatively lower speeds than those built into cruisers or destroyers. While the outstanding characteristic of a battleship is gunpower, she is expected to demonstrate *the maximum power of survival against all naval weapons* and ability to keep the sea. Under the laws of natural philosophy, power of survival may be enhanced by increase in size which permits interior subdivision and extensive armor both on sides and on decks. Quite naturally with the advent of air menace the tendency has been to add some deck protection to all types of ships, and to improve anti-aircraft batteries both for high level and close-in air defense. Such changes, and others, are evolutionary, but inevitable. Battleships take a long time to design and to build. Consequently great foresight should be used in providing new construction, in providing replacements for losses and in design work to meet the military needs during the life of the ship. Other types of ships and planes share these evolutionary exigencies in less degree. Both the sizes and expenses of units increase correspondingly. Of all naval craft the battleship still can and should embody the maximum power of survival when well designed and properly used.

On Newer Types

The newest type of combatant ship is the carrier which is designed specifically to carry planes of such types as may be determined upon. Carriers must have speed to make them of the maximum usefulness to their planes; they must have capacity both on decks and in hangars for the accommodation of planes; they must have size to provide a large landing deck and a stable platform at sea for plane landing and take-off, under permissible weather conditions. It is a physical fact that no carrier can have complete armor to protect its planes, ammunition and gasoline, nor can it have a very heavy flight deck, which is high up in the ship, to resist gunfire or bombs to the degree which might be desirable or to the degree which it is possible to build into the battleship. It is also true that every gun, every knot of speed and every ton of fuel oil or gasoline that is put in the carrier reduces the number of planes and their equipment which can be carried. Compromise again.

Continuing into the air with our naval weapons, we find several types of planes each, like the several types of ships, useful to each other in cooperation and to the ships beneath them for certain purposes. All military planes are alike in one particular, they must have speed and great engine power and limited weight, to enable them to take the air and to climb into advantageous positions rapidly, with practical limitations to enable them to

land on ships or at landing fields. The high power and high speed thus required are inherently uneconomical. Every gallon of gasoline which is carried to extend the radius of action reduces the maneuverability, the guns, or ammunition or bombs or personnel which can be carried. If the radius of action is pushed to the maximum all other characteristics must be limited accordingly; and if in addition a military load is to be carried the actual protection for plane and pilot must be very scant indeed. The design of a plane is a critical matter; and increase of any characteristic is paid for dearly in some other quality. Planes require a suitable place to land and frequent servicing; they require much maneuvering space, because collision is fatal; they cannot stop in the air; they cannot hold any position for more than an instant; it is necessary that they reach quite exact positions in the air in order to create effective offensive damage with the limited load which it is possible for them to carry. Fundamentals demand considerable numbers of planes for effectiveness; but vital needs, especially for fuel, and maneuvering space are opposed to numbers; and it is an important fact that while on occasion they may accomplish significant damage or destruction, they cannot remain to conquer. There is no weapon so nearly useless or so vulnerable as a plane when it is not in the air.

There was a time when the plane was believed to be a cheap military weapon. Such is not the case; not only are large numbers required, but any light mechanism which operates at such speed and power is not cheap. By the time there are provided in addition to constantly changing designs and frequent replacements, accessories like landing fields, carriers, hangars, repair shops, barracks, supplies, special fuel, transportation, special personnel and training, and so on, the cost of delivering a given amount of destruction with effectiveness at a specified distant point is found to be comparable whatever the means. Suitability and adequacy of means for the given task are what count in winning a war, not indeterminate differences of cost. "*Can* it be done, and if so how *best?*" is the question.

Planes which land on carriers are limited in size and in weight to the strength and capacity of the landing spot. As a consequence carrier planes on the whole should be less capable than land planes, within the full possibilities of design, and sea planes should be still less capable tactically than carrier planes as to feasible physical characteristics. However, as will be seen, there are other considerations which in operation tend to preserve the balance. The most important of these is that carrier planes take their mobile base with them; and this affects radius of action, choice of loads, upkeep, relaxation of personnel and assistance when in trouble.

As in the types of ships, each type of plane—fighter, bomber, torpedo plane, observation plane and flying boat—has its peculiar characteristics possessed to a maximum in each type and *not possessed to an equal degree in other types* as a matter of design permissible under natural laws. All of the types of ships and planes mentioned above have distinct characteristics which make that particular type superior in some respect to the others on account of the limitation of natural laws and the acceptance by the designer of the limitations in other characteristics which are unavoidable in producing one or more superior characteristics which constitute the reasons for the type itself.

On Strength and Weakness

None of the types of ships or planes are indestructible or immune from damage, but there is a vast difference in degrees of stamina and immunity which should be thoroughly considered.

In each and every case the designer and the manufacturer are hopeful that by skill he may be able better to overcome natural laws and limitations in materials and in processes so as to produce at any particular time a weapon which will be superior beyond previous realization. Thus a constant and progressive struggle goes on with infinite complication down to the last detail so that minds and ingenuity are taxed to squeeze the last possibility in military assets out of the materials and processes available.

Similarly, each of the types mentioned above has its weakness which the designer and the manufacturer hope to minimize by their skill, and the tactician hopes to minimize by having supplemental craft present to supply the deficiencies and by the proper tactical handling of a combatant force. Thus it is that in a naval campaign all of the types of ships and planes mentioned above are necessary in due proportion *depending upon the problems to be met.* Each of them can be dispensed with under some circumstance and each of them is necessary under some circumstance *depending upon the sort of operation to be undertaken.* Since the discussion is focused on the battleship, the plane carrier, the bomber and the torpedo plane, let it be said that the maximum power of survival of a battleship may be realized by increasing its size with good design; and as a matter of physical fact this should give it a reasonable degree of immunity from probable mines, bombs, torpedoes and projectiles, provided it is used in conjunction with the suitable supplementary craft and provided it is properly employed tactically. Briefly, size and skill in design should give it relative material stamina.

For the carrier the situation is different. If it is to have good speed, and some respectable carrying capacity for planes, then much gunpower and armor protection must be sacrificed. Even extreme size will not save a carrier from being vulnerable, although increased size will add to carrying capacity, possible landing loads and deck protection. The flight deck of a carrier, on account of its height in a stable ship, continues to be vulnerable in some degree. All types of surface ships can operate with some effectiveness at night and in low visibility, and can survive varying degrees of bad weather, important military considerations. They are much handicapped in defense, and practically useless in offense, when immobile—at anchor, in dock or even stopped in the open sea.

The bomber enjoys the advantage of position when achieved, but in order to be even a menace the bomber itself must come to that position exactly. The bomb-load which a bomber can carry is limited and the gasoline supply is limited so that there must be a compromise reached between these and other elements. Although a bomber's inherent range of operation may be considerable, before it starts it is irrevocably committed to a certain kind of load as between gasoline, sizes of bombs, ammunition, etc.; and when that choice has been made it cannot be rectified, possibly until the limited load has been expended, and certainly until the bomber has returned to a base which must be surely available, lest the plane be lost.

Similarly the torpedo plane's principal advantage is its speed; like the bomber it possesses the advantage that it can attack in numbers provided it is not intercepted at a distance. Its weakness is similar to that of the bomber. Like all planes it is nearly useless and very vulnerable when down; it is much hampered by bad weather and low visibility.

Fighters, too, enjoy a place of their own; they are essential both in covering, and in defeating, bombers and torpedo planes. Great speed and maneuverability are gained at the sacrifice of armament, protection and fuel; a fighter is fast, handy and essentially vulnerable, but its help in the tasks it performs is necessary.

There are a number of other important types of ships and aircraft which it is not necessary to mention by way of further illustration.

On Significant Dissimilarity

Each type of ship and each type of plane is carefully built to overcome or to counter the military characteristics of one or more other types under certain circumstances or when used in combination. To illustrate, it is the reasonable expectation in design that a submarine may be able to sneak up and hit a battleship, while the destroyer hopes to bag the submarine, the cruiser hopes to bag the destroyer, the battleship hopes to eliminate the cruiser, the bomber and torpedo plane from the carrier normally hope to bag carriers and battleships while the fighter hopes to ruin the bombers and the torpedo planes, and so forth with infinite variations. The designer strives within his knowledge and skill to provide a capable type which will create the most damage with the least jeopardy in attacking but

will suffer the least significant damage when itself hit.

One further simple illustration in design. The fighter is the natural enemy of the bomber or torpedo plane. If it is known in advance that the fighter need carry gasoline for only a very short time in the air, then a fighter much improved in armament and maneuvering power can be designed and built. Similarly, if it be known in advance that ships of the Navy will never be required to fight more than a few hundred miles from a well protected home base, weight thus saved in fuel can be built into other valuable characteristics, like guns or armor. National policy therefore affects the fundamental design right from the start.

From the above brief comments it will be seen that the question always is *how much* can be built into the ship (plane) through care and skill and how effective can this be made by proper use.

On Damage and Destruction

Each of the types of ships and planes mentioned above carries weapons which are more or less peculiar to itself, and which have required great skill and much time in the designer's and the manufacturer's efforts. The object of each, of course, is to create fatal damage and destruction which will produce military defeat for the enemy and in the end result in victory for the owner; or to prevent such destruction, defensively.

It is important to observe that not all damage is useful in producing defeat inasmuch as it is possible to create much damage by picking foolish objectives or by the futile use of force without really producing defeat or bringing victory any nearer.

Any experienced person will admit that a suitable amount of high explosives placed properly will create noise, disturbance and destruction in appropriate amount, and that any missile properly directed will create damage on impact subject to well-known natural laws. These facts, of course, lead us into infinite ramifications of design and use, but it seems appropriate to indicate some of the prominent characteristics and limitations which have to be dealt with.

The primary naval weapon is the gun which shoots projectiles. It is a physical fact that steel makers cannot produce a satisfactory gun above a certain size any more than they can produce satisfactory armor plate beyond a certain thickness and quality, or a usable Diesel engine beyond a certain moderate power, or a cylinder for a gasoline engine beyond a very narrowly limited size; no one knows how to set aside such limitations in mechanical processes. Similarly the muzzle velocity of projectiles is limited by skill in manufacture. The size and velocity of projectiles is limited, and the resulting energy directly proportional to mass times the square of the velocity is limited. The projectile may carry permanently a large amount of high explosive, in which case it must have thin walls and will break up easily on impact, or it may carry a small amount of explosive in which case its destructive force due to bursting is reduced. If it bursts on impact it loses the disruptive advantage of bursting in a confined space, and consequently choice must be made between impact fuzes and delayed action fuzes. Only a limited number of projectiles or bullets can be fired from any one gun within the life of the gun, and only a limited number of bullets or projectiles can be carried in any one ship or plane on account of the weight and space. These considerations and many more must be determined by the designer long in advance.

Similarly the characteristic weapon of a submarine is the torpedo. Only a certain small number of tubes can be built into a submarine and only a limited number of torpedoes can be carried on board. These torpedoes must fit the tubes exactly and they must be designed long in advance to determine how far they will run and how much explosive charge they will carry, for a torpedo can be built to run a long distance with a light warhead or a very short distance with a very heavy warhead. Similarly a torpedo's speed must be predetermined, for torpedoes at best are of such limited speed that it is usually found unprofitable to fire them at fast, small, quick maneuvering ships like destroyers. The torpedo warhead bursting on the side of a ship possesses a destructive force proportional to the size and character of the explosive charge and also to the head of water above it so that the depth at which it strikes is a matter of great importance. Its destructive effect in ships is usually countered by cellular compartmentation of such design as is found by experience to be the most effective. It is a physical fact that the shell of a torpedo is of limited strength so that the height from which it can be dropped into the water by a torpedo plane is relatively small. Yet the torpedo is an important weapon, hard to design, difficult to build, delicate to maintain.

Likewise the mine when exploded under the bottom of a ship has a destructive effect dependent on the charge and the depth of the water. In some respects the mine is the most destructive weapon but it has serious limitations, of which the principal one is its immobility and the fact that when once planted the planter has no more, or limited, control in the matter.

The airplane bomb, like the projectile, can be a thin-walled, high capacity bomb or it can be an armor piercing bomb with comparatively low capacity for explosives. Generally speaking explosives which burst in the open air on impact have comparatively small disruptive effect on structures as compared with those which penetrate first. In order to make an effective flight a bomb must be released from one point in space exactly or it will miss, and it is a physical fact that the velocity of all bombs is limited under the force of gravity to the maximum terminal velocity, which is considerably less than that which can be achieved by a bullet or a projectile. It is possible to build shore construction or ships, provided the ships are built low enough and big enough, which usually will defeat bombs of the size which can be carried in planes in any significant numbers. The weight which any plane can carry is very limited so that choice must be made as to whether engine weight, gasoline weight or bomb weight is the most useful for its prospective work; and on any particular occasion choice must be made as to the size of bombs, for a plane which can carry ten 100-lb. bombs can carry only two 500-lb. bombs and only one 1000-lb. bomb. No bomber can dive with much of a load. It is the effort of anti-aircraft batteries to keep horizontal bombing high so that the percentage of misses will be greater and so that there will be better possibility of maneuvering the ship below. It is obvious that on any occasion nature has limited the maximum destructive effect in bombing even if the utmost skill be used.

There are a number of other naval weapons and variations of naval weapons which need not be mentioned because the complications would detract from the illustrations already used. Great ingenuity has been used to design weapons of varying and comprehensive characteristics so that each will have its advantage, but it is no less true that each has its disadvantages and its limitations so that again wisdom in design, wisdom in manufacture, wisdom in supply and wisdom in use are important, whether on the offensive or defensive.

There is a vast difference between ineffective noise, indiscriminate damage, unproductive activity, stunts; and effective operations. Damage to be effective must be wisely and precisely placed. Let us deliberate on the applications of this point so that we may become discriminating as to what makes progress.

On Tactical Employment

The end and object of the offensive employment of military apparatus is to create such significant destruction as to bring about defeat, but the ways of doing so are infinite in their variety for the purpose and are extremely complicated in their application. It is desired, however, to mention a few points which have specific application and which are popularly not often thought of.

Certain types of craft are suitable for one kind of campaign, or even for different phases in the same campaign, depending on the forces to be met and where they are to be found. It is the care of the high command to combine the various types available in such a way that they will supplement each other adequately for the best results on any particular occasion.

Thus in general at sea light forces—planes, submarines, destroyers, cruisers and carriers—are used for raiding, for reconnaissance, for striking, for enemy attrition or softening, and for screening own movements. As between more or

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less equal opposing forces, such light forces tend to eliminate or greatly reduce each other as a campaign progresses, thus requiring more and more support from heavier forces, and also necessitating considerable replacements. On any occasion they may or may not be supported in action by heavier forces of cruisers, planes, carriers and battleships as strength members. They may or may not be followed ultimately by expeditionary forces of infantry, artillery, air forces and collateral services to hold territory; but it is certain that if the sea is to be used freely and denied to the enemy it must be held by such naval force, and continuously, as to accomplish the result; and it is equally certain that if sea or territory is to be held it must be occupied in sufficient force to control it. It is manifest that the farther such area of control or occupation is from the original source of friendly supply the more difficult and expensive becomes the problem for the belligerent on the offensive. Evidently an overseas enterprise involves control of the air, the sea and finally the land; but control does not mean necessarily that all enemies and all jeopardy have been eliminated, but rather only sufficiently reduced for the purpose, the feasible use.

The process of war is to control the means of existence or destroy the lives of an opposing nation composed of people. This is no less true now than it was a million years ago; but it has become the fashion to hope, and to try to believe, that such ends may be accomplished at a distance without too much physical jeopardy by hit-and-run methods, rather than by a crushing force, and without the heavy jeopardy unavoidably entailed by its use. It is a fact that human beings, although having a taste for criticism and quarrels, do not like some of the horrors of war in large quantities, and one way or another hope these can be avoided. Hence they by one means or another try to avoid the most unpleasant features, particularly for themselves and for large masses of their friends and countrymen. Thus they, through wishful thinking, tend to beguile themselves concerning the stuff which is necessary to win an overseas war. This is not a question of individual bravery but it is a matter of habits, sound thinking and mass hardness.

Personal courage does have a great effect upon the employment of ships and planes in the field. The collective performance of a small light force which knows that it is adequately supported by a heavy force or strength member is superior to that of a light force which has no such hope. The collective performance of the crew of a ship, which must begin to fight instantaneously with effect or sink, is on the whole superior to performance dependent on individual effort. Thus the captain of the submarine who alone is looking through his periscope must determine without any check upon him whether he will make an attack, and when and how; or whether he will abandon it. At this point judgment and training determine the difference between maximum effectiveness and foolhardiness, for the torpedoes may be hastily fired without effect, or by bad judgment the submarine may expose herself and be destroyed without effect, or she may run away without adequate effort.

Similarly in a plane, an attack, by bombers and torpedo planes adequately met by fighters or even by adequate gunfire, may turn away or be broken up so as to be without any effectiveness whatever. Thus planes have been known to drop their loads in open fields or on unprofitable objectives, and go home, without accomplishing anything, when difficulties are met or opposition encountered.

On Appropriate Use

Not only may naval weapons be handled in action skillfully or unskillfully, as the case may be, but they may be selected properly or improperly for any particular occasion. To some extent their proper selection depends upon an intelligent use of available information, but sometimes it depends somewhat on luck, for a military commander who through chance or intention takes chances and succeeds with inadequate force is a great man, popularly speaking, but if he is caught at it and meets disaster he usually must bear his own shame.

First, it is necessary to select from the units available those which best supplement each other and are of characteristics suitable to compose the force suitable for the purpose. If the proper units are not available this perhaps may be a national calamity through a failure to prepare, but if they are available it becomes the responsibility of the high command to select and to use them properly. As remarked above, all types of ships and planes may be used alone on some occasions and each may be dispensed with on other occasions.

Next in importance to the high command is the selection of suitable objectives in attack.

Generally speaking, no major fleet is complete under existing conditions without all of the types of ships and planes mentioned above, including an expeditionary force and many types of auxiliary ships for fleet maintenance and fleet supply especially if an overseas campaign is to be prosecuted.

Let it be said, however, in ordinary common sense, that, unless there are compelling reasons therefor and benefits to be gained proportionate to the risks run, there is no more good judgment in sending capital ships into a hot submarine menace without destroyers or other anti-submarine vessels than there is in sending valuable ships into a respectable air menace without adequate air protection by fighters or otherwise, or than there is in sending any vulnerable military force into an uncertain and critical situation without reconnaissance or some information on which to base an estimate of the forces which may be met. Thus it is possible that a force be in an appropriate area, and no less possible that it be in an entirely inappropriate place under the circumstances.

It is a simple and elemental consideration that ships and planes are mobile; maneuverability is a primary characteristic, and lacking special circumstances it is no more appropriate that ships be caught unprepared, stopped at sea or anchored in harbors, than it is that planes be caught on the ground. Both ships and planes must be serviced at their bases and their personnel must have opportunity to rest, but on such occasions they must be screened and protected by other means than their own or accept the chances correspondingly.

Let it be well remembered that after the raids and operations of attrition a substantial force must control the wide sea and its uses. Someone must remain to hold and to dominate.

On Weather and Visibility

The effectiveness of all weapons, because they are controlled by human beings, is powerfully influenced by weather. Weather puts much uncertainty into the tactical use of weapons. Weather may be either a friend or an enemy. It may be skillfully used or it may be an unfortunate encounter. It is not too much to say that bad weather disturbs the normal functions of all military weapons to a greater or less extent. Generally speaking, it tends to increase the effect of their weaknesses from the battleship right down to the fighting plane. It is easily perceived that some of the types of weapons mentioned above can be used in some kinds of weather, and not at all in other kinds. Disturbances of the air, disturbances of sea, heat, cold, fog, rain, wind, snow, ice and icebergs all have tremendous effect. Performances which can be expected under the best weather conditions are sadly reduced or completely eliminated in adverse weather, and those who go to sea or go into the air are seriously limited thereby.

Similarly daylight and dark, clouds, sunlight, twilight, moonlight and black nights have enormous influence, but they are nonetheless unavoidable physical facts which impose limitations, and sometimes offer opportunities. The range of visibility is short under the best conditions, compared to the size of the ocean; it has a profound effect on, and lends much uncertainty to, operations at sea, and still more so in the air. For example, poor visibility under water causes submarines to operate alone to such a great extent; fog at sea in general puts a stop to the military operation and effectiveness of planes.

It will be sufficient to indicate, concerning a composite force of battleships, cruisers, carriers, destroyers, submarines, bombers, torpedo planes and fighters, that under certain conditions such a force must operate under reduced efficiency because

ome of the types mentioned can operate only with reduced efficiency or not at all. For instance, when the sea becomes rough the smaller ships must slow down first, on account of their light construction, and consequently so must the larger ships or else the destroyers which are needed will be left behind. Similarly, in foul weather planes cannot fly, they must be taken aboard or grounded; but they are necessary for use in negotiable weather. Just the force and direction of the wind is a primary consideration in all plane operations, while plane navigation over comparatively short distances adds much uncertainty to plane operations.

Old Man Weather always has to be considered, and it is because of his uncertain behavior that many dreams of performances are seriously limited in practice, for it is no less certain that bad weather will be met some time than it is that dreamers will continue to premise performance on the continuation of good weather, which also happens sometimes in the experience of the naval tactician, after the bad weather is over.

Similarly it has been found that seasons and latitude have a considerable effect on war and campaigns, and the conduct thereof.

It is a debatable question whether a frosted foot, or a frozen carburetor, or an overheated engine, or a bullet toward the heart is the most to be feared, but such considerations do affect the operation of ships and planes, and at least the psychological and physical advantage, at any particular time and over a time during a campaign, is on the side of the ship or plane having the greatest size, the most stability and the most creature comforts. Human beings are like that; the softer they are and the better their habits of living the more they are just like that; and mental and physical conditions have great effect in the cooperative effort of preparation and conduct of war.

On Time and Distance

It is a well understood military principle that adequate force must arrive in time if it is to be of the maximum effectiveness. Accepting the correct choice of the hour of arrival, this then depends upon speed, endurance and distance, which to some extent are matters of a designer's choice. The sea is very large; but the air is vastly larger and has also a vertical component to be negotiated by planes, with difficulties of its own and expenditure of fuel.

To the high command it makes an infinite amount of difference whether the designer long before was properly informed as to how fast and how far the ships and planes would be required to move under their own power, otherwise they may have to be refueled enroute or frequently supplied with all manner of needed articles, all bothersome operations.

Distance has great effect upon the auxiliary types for maintenance and supply because it is one thing to rest on home bases with their hinterland full of resources, and quite another thing to rest upon deserts abroad to which everything must be transported. A tanker, for instance, big-bellied, slow and unprotected as it is, may use much of its fuel just going and coming, without delivering any appreciable amount of fuel; the finer it is as to shape and the faster, the less it delivers. Thus, too, the cargo submarine, and the cargo plane, although appropriate on some occasions, are very uneconomical and of doubtful adequacy for large projects.

Long distance whether horizontal or vertical is a fact of nature which, without any effort of the enemy whatever, greatly increases the war effort and correspondingly reduces effectiveness, ultimately down to the vanishing point, thus entailing great waste and dissipation of resources and energy.

Old Man Distance is an ally of Old Man Weather. Together these two have ended the rosy dreams of many a military commander and of many a theoretical designer or inventor; and they have brought grief to many a skipper and many a pilot. Propagandists normally are independent of time, distance and weather. Not so seamen and airmen in war.

On Personnel

It has been pointed out above that all of the military weapons are built to produce damage, somehow, somewhere. Scientific progress has made them complicated. Therefore, in spite of the fact that a balance is necessarily established to some extent between the types of weapons based on designer's intelligence and manufacturer's skill, they still depend for effectiveness very largely on the training and the ability of personnel who man the weapons. On any particular occasion it may happen that a weaker unit prevails over a stronger unit through bad luck (such as unfortunate initial damage), adverse circumstances, lack of training, or through faulty tactical employment. Granting that all designers and manufacturers are of equal skill, the superior training of the operating personnel would cause it to prevail in the long run. Let it be said that the more complicated and the faster moving the piece of apparatus in use the greater must be the human skill, alertness and tension in operating it; and that the more susceptible the operation is to error the greater becomes the difficulty in training the personnel to perform the operation under stress of action. As a corollary the less secure the personnel is in action and the more exacting its natural problems apart from the enemy's effort, the greater the difficulty in finding and training the personnel to achieve results and the more meager are the total results with imperfectly trained personnel. Involved in this are practical questions of leadership, human behavior and mutual support which in a military organization operate in favor of the larger units in achieving results with similar weapons, although the smaller units may behave more spectacularly and may individually be highly effective on a particular occasion.

There is no substitute for an adequate number of trained personnel, especially in operations involving the activities of several units or several types of units. There is no training which wholly supplants experience and practice.

There are innumerable large and small operations in ships and planes which must be skillfully handled by some individual, to whom they are as important as the hitting of a target beyond the horizon by sixteen-inch projectiles; or handling a submarine to avoid anticipated patterns of depth charges; or saving a squadron of planes caught in fog or storm.

On any occasion one part of a composite force, through circumstances, may perform with maximum effectiveness or brilliancy but its effectiveness nonetheless is due to a degree to the accompanying or supporting forces which enable the operation to be performed and without which the operation as a whole would be impossible. All of the personnel in such an operation contribute to the result, good or bad; not only must they know their own duties thoroughly, but they must have extensive experience and training at sea in order to cooperate with the other types, so that all air, surface and sub-surface units may operate together after indoctrination with complete understanding and confidence in each other. However, there is not much use in building apparatus which wartime personnel, in number and quantity, cannot handle. The finest laboratory apparatus which a scientist can devise, the most complicated electrical apparatus of a ship, and the most delicate controls of a plane become useless when personnel is too few, too unskilled or too inexperienced in cooperation to make up an effective force. Neither seamen nor airmen can be created overnight; nor individually interchanged instantaneously without reduction in efficiency, for they form an inseparable team where life and death are at stake. Team work in military organizations is hard to achieve. Not only are fundamental training and experience difficult to attain, but the effects of large numbers of changes in personnel, and casualties, must be surmounted.

Personnel too is sometimes weary, sick, injured, deafened or punch drunk, causing loss of efficiency or absence. A mild epidemic or unsanitary conditions may put a ship out of action, easily.

Trained and experienced personnel has an influence on design as well as on operation, because unnecessary suicide is no more popular with military men than with other healthy and hopeful adults. Trained personnel in the end, if it has opportunity, will effect up-to-date changes in design. Contrariwise, it will abandon or condemn

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any inadequate weapon which has too little merit, including any type of ship or plane which on the whole has neither a good chance of effectiveness nor a good fighting prospect of survival. Therefore, it is well to seek advice from and listen to broadly trained personnel as distinguished from laymen, propagandists or specialists.

On Bases and Supplies

All ships and planes require the establishment of protected bases for maintenance work, repairs, spare parts, fuel and other expensive supplies, and all personnel requires rest and recreation. No mechanical apparatus and no crew can operate continuously, but duration of operations is in favor of the large unit and the personnel attached thereto since the large units carry with them more of the necessities for a military campaign and for daily living than the small units. Thus large ships can go for long periods of time without reservicing, while small planes require attention every few hours for material and for personnel; nevertheless arrangements must be made so that all of the types can operate together when necessary. Unreadiness to operate merely weakens the force by that much, and even under best conditions there are always some units which are unready, to a greater or less extent, so that never is the total force present and available.

When a fleet rests on its own main bases, protected when it rests in security by the Army, the situation is quite different from what it is in a distant area lacking in harbors, landing fields, fuel, fuel storage, spare parts, shops, drydocks for damaged ships, hospitals, recreation facilities, and so on, ad infinitum. The ship that is so strong and dependable today becomes a tactical liability when she has a hole in her bottom and there is no drydock to go into. The plane which performs so brilliantly today is completely eliminated without gasoline, spare parts and shop service for the plane after a few hours, and without rest for the worn-out crew.

A submarine may operate at sea for as much as two months, but at the end of that time the ship requires maintenance work and the crew requires rest; and there is no alternative. Similarly planes not only require suitable places to land but, when in even moderate numbers, require great parking places, large shops for frequent overhaul, enormous supplies of highly inflammable gasoline, numerous replacements for planes, and extensive barracks for the ground and operating personnel, with all of the miscellaneous trimmings. All sorts of mechanical apparatus and personnel are like that, even in time of peace; in time of war, when there is wear and tear and damage to material, and stress and strain on personnel, the situation is much worse.

All of the types have their peculiarities and their limitations which must be cared for.

Everything required to go overseas is limited in quantity, size, weight and general character by the protective handling, storage and shipping facilities available.

Thus an overseas expedition *against a puny enemy might* be successful with any one type of ship or plane; but if the enemy is strong, well equipped and well established a much larger and more complete force and a much greater effort is required because time and distance are his allies in addition to whatever preparation he may have made himself. *The belligerent going far overseas must have, and answer, everything the enemy has—only more, and better.* More than enough or unsuitable weapons not only increase the expense to no purpose but hamper the campaign by absorbing personnel, facilities and transportation. Unsound advocates and unwise choices can do harm to a campaign in this respect.

On Transportation

Brief mention of the types required for transportation of personnel, planes, artillery, shops, materials, food, inflammable fuel, hospital facilities, and explosive ammunition is unavoidable. These types are highly specialized, and distinct from combatant types, but are quite as necessary for overseas work—the greater the distance and the poorer the facilities at the other end, the greater the need of enormous total capacity; and carrying capacity is severely limited by any additions of speed, guns, protection, fuel consumption and such elements. The economical cargo ship has a big belly and slow speed in order to accomplish quantity delivery. On the other extreme of the transportation facilities are the cargo submarine and the air transport, both very uneconomical for what they deliver. Intermediate types with characteristics in between are numerous. All of these require escort in hostile areas.

Let us not forget that distant operations of mobile mechanized units are dependent on supplies, particularly a sure current supply and an ample reserve of food, of ammunition, and of fuel, the source of energy, which high speed operations and the high powered units devour. Without sufficient supplies of such commodities as fuel oil and gasoline, ships, planes and shops may be hampered in operations, may become relatively ineffective or even dead. The greater the area of operations, and the more distant, the greater the need.

On Treaties, Budgets, and Such Stark but Practical Abnormalities

In practice, preparation for war costs a great deal of money, requires much training, takes much time. Wise preparation for war depends upon the definiteness and the consistency of national policy.

Under a party system of government there is not apt to be consistency of national policy, either foreign or domestic; the party system is like that.

Waves of more or less violent economy and liberality succeed each other with irregularity but certainty. Waves of imperialism, isolationism, nationalism, internationalism, belligerency and pacifism take charge from time to time and have their effect over a period of years. In time of peace and economy, war is in disgrace; but in time of national crusading and exaltation, war becomes noble again; and both of these states of mind have an effect on the annual budget, and so upon military planners and on naval designers.

Thus, for example, after the last war several shipbuilding plants went into bankruptcy or went out of business for lack of work. The designers either died or went into other lines of business so that the highly technical matters involved in building ships and planes and the facilities for quantity and quality production suffered accordingly. Not only that, but during the same period of time the American Merchant Marine became pitifully decadent for reasons unnecessary to discuss here.

The efforts of the Conference for the Limitation of Naval Armaments which met in Washington in 1922 with the succeeding meetings abroad are noteworthy as to abortive efforts, principally because the resulting restrictions concerned themselves so considerably with limitations on the powerful battleship and the cruiser, and efforts in negotiation gradually petered out so that they failed to carry through to the smaller and supposedly less expensive and less important weapons, which flourished and developed accordingly.

Thus for a longish period of years, nearly twenty in fact, design and production of the most powerful naval weapons lagged while the designers and fabricators became much reduced in numbers and inexperienced, even if they did not quite disappear altogether.

A single illustration will suffice to make a point. The U.S.S. *Oregon*, which carried 13-inch guns and 8-inch guns and was well armored for her day, was an heroic figure in the Spanish War, and justly so. She was a battleship of her period of about 10,000 tons and did noble service. Such has been the progress in naval design since that time that the cruiser *Houston*, recently lost, could steam further and faster, and shoot so much farther and so much faster and straighter, that, had they ever met, the *Houston* could have stood off and hammered the *Oregon* to pieces without having a single projectile come anywhere near her. The *Houston* was only a 10,000-ton treaty cruiser, although limited in size artificially. So much for progress in design and apparatus, and just so much for obsolescence in times of great industrial and mechanical progress.

Since mechanical skill in design and manufacture can be turned into any one of several channels, the conclusion is rather obvious that obsolete or badly designed apparatus of any kind cannot compete fully with up-to-date apparatus. Stagnation in mental effort, whether in business or in national defense, brings its own

inevitable consequences; no designer or builder can work miracles.

The point is that if there is to be progress in design and construction, all governed by natural laws within the ingenuity of human beings, effort and production must be continuous and progressive in all lines if the relations of natural forces are not to be upset by artificial and obsolescent arrangements. The alternation of feast and famine, whether due to political or budgetary considerations, produces the abnormalties of alternating starvation and indigestion in the national defense no less than in any other activity. Considering progress in the development and use of materials, it is unreasonable to expect yesterday's apparatus of any kind to equal or compete with what could and should be possible today. As between the various types of engines of war, the practical question of quantity, quality, suitability and degree of obsolescence enter into the picture. Look at the history and the date on the underlying design before drawing any conclusions about mechanical apparatus, ships and planes.

The general effect on the availabilty of trained personnel is parallel.

On Sound and Unsound Deductions

For purposes of study and for the information of those who design ship structures (as well as for those who train personnel) a considerable number of experiments have been conducted over a period of years to demonstrate the effect of high explosives of several sorts and various quantities on structures of various forms and shapes imitating structures of ships or possible ships. Of course such experiments are not entirely satisfactory nor entirely conclusive because they do not cover the infinite variety of circumstances which may accompany the use of high explosives against ships. It may be accepted that such experiments have been too few in number, but this applies to all sorts of expensive experiments which may be of use to designers engaged in research.

To supplement such experiments and to further improvement in construction there have been made from time to time planned experiments on actual ships of a kind intended to establish facts as to damage.

In regard to the experiments mentioned above it may be said that, because they are too few and to some extent inconclusive, the test comes in battle, but unfortunately that is too late to accomplish the purpose of preparation, and in the end furnishes few data to substantiate facts or comparisons between materials and their assemblies.

There have also been a few other artificial experiments, in the nature of Roman holidays, primarily for the stimulation of psychology and the fortification of propaganda such, for example, as those that were conducted some years ago using the U.S.S. *New Jersey* and the U.S.S. *Virginia*.

The mere fact that the *New Jersey* and the *Virginia* were sunk by bombs from planes does not mean that the plane and its bomb are superior to the battleship because the circumstances did not promise any other result. The ships had been built under an out-of-date philosophy; they had been out of commission without upkeep for a considerable time; their plating, seams, watertight doors and hatches were in poor condition; there was no defense by guns or otherwise; their pumps were dead; they were quietly anchored in a smooth sea, with excellent weather conditions, within easy range of the air base, and finally the planes were guarded by destroyers to keep them safe. The destroyers in fact could have sunk these battleships with torpedoes while they were waiting for the planes to take off the first time. There was no reason to suppose that these two battleships could survive an unlimited amount of high explosive deliberately dropped on or around them over a period of several hours, provided only that the planes were able to pick it up and drop it. If on the other hand the planes had never been able to sink those two old battleships at anchor and defenseless, that would have been significant indeed. These comments are not intended to belittle the performance of the planes on that or any other occasion but merely to recognize physical facts. The plane operators were doing a new stunt for a purpose and they made the most of the opportunity.

On Current Experience

Actual experience of planes and battleships in single combat against each other is comparatively scant, and in the nature of things should be so, because this is not the way forces should be employed. The attack on the battleship by planes is normal enough as an offensive operation, in which the planes enjoy the highly valuable initiative; but on the part of the battleship it is strictly defensive because no battleship can take off to pursue a plane and so must await the attack and operate defensively with maneuvers and anti-aircraft fire. However, it should not be expected that a battleship in these days will meet a heavy air menace unopposed, for the primary defense against bombers and torpedo planes is to destroy them at their source or to counter them on the way to their attack by other suitable planes, fighters. Anti-aircraft guns add great jeopardy to the attacking planes but they are not the primary defense. However, they may bring down some planes before bombs and torpedoes have been released and in some cases may insure that the planes do not return to a second attack. Battleships are not expected to withstand an unrestricted menace by planes any more than they are expected to withstand an unrestricted menace by submarines, destroyers, cruisers, mine layers, or any other single type without either due care or counter operations; but even so up-to-date construction, equipment and training are essential—energized by proper use.

Engagements between mixed types of ships and planes are extremely complicated when it comes to drawing conclusions from the results. As a usual thing a great deal of the data which would be useful in the evaluation of the results is missing, perhaps because some of the units and some of the personnel have been destroyed, and in many cases the significant history does not readily appear to the eye. Thus it is that the analyst has a very difficult task in drawing sound conclusions.

The instances that happen are so small in number that usually they furnish no criterion from a statistical point of view. Isolated incidents of all sorts happen, and while certain facts result it is unwise to conclude that similar results will happen so, normally.

It may be confidently stated that naval and military staffs do everything in their power to collect data and to analyze results to the end that they may be able in the future to damage the enemy with greater facility. Often much of the necessary data is missing and sound conclusions are arrived at with considerable uncertainty. Even so, the staffs have much more information at their command than the public at large, for whom it is highly inadvisable to jump at conclusions or to accept appearances as to underlying causes without sufficient information, experience and breadth of view.

In the present war there have been several occasions on which battleships have been disabled or sunk by aircraft and these occasions cover a considerable variation of circumstances; and there have been other occasions on which planes have been shot down by gunfire from battleships; but in no instance is it wise to draw conclusions unless all of the background and the existing circumstances are taken into consideration. In some cases essential facts are missing from the information available and in some cases, even if the information were available, its significance might not be appreciated.

For example, not long ago a British battleship was lost close to the east coast of Indo-China, sunk by Japanese planes, during a rapid operation of meager forces without air screening to counter a Japanese landing operation in force. Some of the facts are known, but the analyst would have to consider among other things the following:

Whether the ship's operation was meritorious in that the result could compensate for the jeopardy.

Whether the ship should have been there at all, in a strategical sense.

Whether air support was available and used.

Whether the underlying information was adequate or deceptive.

Whether the ship was handled skillfully in accord with the best practice.

Whether the design and construction of

the ship was in accord with the best and latest practice.

Whether the internal security measures were adequate for the prevention and control of damage.

Whether the armament and fire-control gear were adequate.

Whether the ammunition was of proper design and functioning.

Whether the personnel was well trained.

Whether there was an element of distinct surprise.

Whether there was an essentially overwhelming force.

Whether there was an element of luck present.

The answers to these questions cannot be taken for granted. We may think we know them but unless we actually do know the answers to these and others we cannot evaluate the causes of loss.

Again, there was recently sunk in the Atlantic a German battleship operating without any air support after being attacked by planes and ships using several sorts of weapons. Before sinking she did great damage to her enemy; she was slowed down by a torpedo from a plane to a speed equal to what was a few years ago maximum battleship speed; she was literally shot to pieces by an overwhelming gunfire of concentrating forces; she was finally sunk by a torpedo from a ship; apparently she gave and took everything that might be expected of a ship; and yet in her loss the same questions would have to be answered, conclusively; but much valuable information went down with the sunken ships.

Exact evaluation and correct deduction are sufficiently difficult for the expert. It is desirable to seek the best advice available in case it should be necessary to draw conclusions. Most people are not called upon to draw conclusions in this matter and should keep an open mind in consequence. Military experts have always been active searchers for progress; many a commercial device of today was a military demand of yesterday before it was a fact.

It is particularly desirable to avoid discarding the facts of yesterday and today for the possibilities of tomorrow or for the dreams of the day after tomorrow until the improved possibilities are actually within grasp. Things have a habit of being as they are for good and sufficient reasons, provided we can just find out what the reasons are. Evolution takes place in military affairs as in other affairs with some deliberation because the errors of revolution are apt to be too expensive in an effort to substitute even the most clairvoyant dreams for the existing substance established by historical development.

On Battleships and Airplanes

The collateral background has been briefly covered in the preceding paragraphs. It is believed that enough has been said to indicate that sweeping and didactic statements on the part of one sort of enthusiast or another should not be accepted without breadth of view and without full knowledge and appreciation of the facts. Even in the military establishment there are waves of enthusiasm for some particular weapon which on some occasion has appeared effective, and there are also waves of fear of a military weapon which has just accomplished execution under special circumstances. Invariably these waves are succeeded by a condition of equilibrium tending toward general progress when opportunities for progress are offered.

In the past there have been various sorts of men-of-war; they started tiny and simple. The battleship of today with its great size and complication is the outgrowth of the battleship of yesterday through force of circumstance and necessity; and yet it can be obsolete. It has been pointed out that most of the battleships in existence today are of old design and were subject to artificial limitations so that there are in existence few, if any, fully representing the possibilities of free design premised on up-to-date philosophy and the latest scientific achievements; but this can be merely temporary. The battleship of tomorrow will be no different as to naval philosophy, but rather different as to details of construction, equipment and use. We may expect confidently that as long as the surface of the sea is used for the transportation of persons and goods, so long will some type of ship be needed to represent the maximum force and maximum power of survival among ships—and this ship can be called a battleship.

The case of the airplane is not on a whole so very different, except that the airplane as a physical fact has been in existence only a few years. Its progress has been rapid because attended by a certain glamour, by a commercial urge and by concentrated scientific developments, although as pointed out above its limitations are quite different from those of the battleship. Most airplanes in existence today are already superseded in the minds of the inventors by the dream of tomorrow, and planes are being turned out today which will be obsolete tomorrow, indeed are already obsolete today. As in the case of the battleship, however, the advantages, the disadvantages, the expense, the difficulties, and the complications of today must be accepted.

On The Present and Future

The plain fact is that the airplane has added to the complication of war, enhancing the position of the rich and mechanical-minded defender and fortifying him to some extent in his zone of influence. Yet there are practical reasons outlined above why planes of late design cannot be present, in unlimited numbers, efficiently manned, at the scene of action at any one time; "the sky black with planes" does not happen. Neither infantry, nor artillery, nor tanks, nor fortifications, nor submarines, destroyers, cruisers, battleships, can neglect consideration of this weapon; undoubtedly they cannot operate with the same impunity as formerly but they will operate extensively and effectively when well designed and well handled; they are progressing in design, equipment and in use to counter both the new and the old jeopardies which they have to meet. None of the types of ships has been eliminated, nor is there prospect that they will be. New ways and means are being found, all subject to the same natural laws. Operations of planes will be conducted in the presence of ships; and operations of ships will be conducted in spite of planes. There will be found no new substitute for human ingenuity, skill, courage and training in fabrication, and in use, with competent leadership.

Since the primary purposes and uses of battleships and planes are not by any means identical and since their characteristics are so entirely different that each possesses few of the outstanding characteristics of the other, it happens that neither can be evaluated in terms of the other by any means whatever. Both are necessary military weapons in due proportion, depending on the object to be achieved.

Both will, and should, continue to exist as engines of war so long as there is war, so long as they are useful against the enemy, so long as there can be found considerable numbers of human beings to take them into action, and so long as there are people who believe sufficiently in military preparedness to provide them; nothing to the contrary is in sight.

In Conclusion

It is to be confidently expected that the maritime wars of the future will begin in the air, and under the surface, but that they will progress to a finish on the surface. Against any significant enemy the control of the sea will be gained by the push of crushing force, accepting its jeopardy and losses, and thrusting its way resolutely into the critical area in support of lighter units, perhaps after these have been largely expended, and finally staying there to use the area by means of the occupation of such stable force as may be necessary to overcome, and to keep overpowered, the enemy at his source, wherever that may be.

At such a time the mobility of planes, in such numbers as remain, will be necessary and very acceptable to the battleships; while the power and toughness of the battleships, and the other types in proportion, will be necessary and very acceptable to the planes.

At that time stamina and power of survival will loom large in the military picture as a concomitant of offensive power.

(The opinions and assertions contained in this article are the private ones of the writer and are not to be construed as official or reflecting the views of the Navy Department or the naval service at large.)

XUM

RIBBONS OF DEFENSE

Piercing the privacy of night, giant "eyes" watch over our cities. As the silver ribbons of light reach and reveal the plane, anti-aircraft guns *automatically* have it covered. These guardians of our homes are controlled by a nervous system of wires—wires that *must not fail*. Should the gun's concussion break a single insulation, the defense of the city must falter.

CONTROLLED BY A REVOLUTIONARY KIND OF WIRE . . .

Fortunately, prior to the war, a revolutionary kind of insulated wire was developed and perfected by United States Rubber Company. Millions of feet of this Laytex* Wire are fighting with our Armed Forces and serving in the fire and police communications systems of our cities. It is used in the lighting of modern buildings. Laytex is thin, light, strong, tough. This rubber insulation is the most flexible of all insulation for electrical conductors. It is most impervious to moisture and remains stable through a wide range of temperatures. It will not shatter under concussion. This is a vital factor in its use by both the Army and Navy. It is perfectly centered—because, for the first time in the history of electricity, the insulation is applied successfully in liquid form.

Alert to the years ahead, United States Rubber Company chemists and engineers, working with Buna and other synthetics, announce a new rubber insulation of the future day. Many new problems of compounding and purification still need to be solved but the scientists who achieved Laytex will solve them. There is no adequate substitute for rubber insulation in the all-important field of communication in war and peace. We look forward with these new developments to making an even better rubber for insulating wire.

*REG. U. S. PAT. OFF.

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If you need help in maintaining production quotas for your war effort, ask for such famous "U. S." trade-marked products as U. S. Matchless and Giant Conveyor Belts, U. S. Royal and Rainbow Transmission Belts, U. S. Royal Cord Air Hose, U. S. Holdtite and Security Friction and Rubber Tapes, U. S. Rainbow and Redman Sheet Packings, U. S. Rainbesto and Peerless Rod Packings. If you have special problems, let us give you the help of our experience.

UNITED STATES RUBBER COMPANY

XUM

PATRIOTS will get a BANG out of this

THIS 1942 model shell casing pictured here differs from shell casings of the past in one important aspect:

There is no copper used in its manufacture. *It is made of steel.*

Over long months Buick, in cooperation with a special U.S. Army ordnance-industry committee, has worked on one of the special and ticklish processes of its production — and now that the job is rolling, all that's been learned of special processes and techniques is available for all shell-casing-makers to use if they desire.

It's a notably good shell casing. Tests in quantities already have been successfully concluded, and these steel cases are being turned out on an accelerating production basis.

With copper as desperately scarce as it is, and the millions of these shell casings that will be needed for the hungry guns, you can imagine what a first-rank contribution this is to our nation's war effort.

Buick is proud to have played a part in its development, proud to have worked hand in hand with the Army, glad to have demonstrated that in the pinch American ingenuity is still doing business at the same old stand.

★ *You will also be glad to know we are keeping months ahead of schedule on our output of Pratt & Whitney aircraft engines and many other important war products such as tank parts, artillery parts, etc.*

Flint Journal
Flint, Mich.
Twenty-Two Pages
Home Edition
Price Three Cents
ps Steel Shell Cases
New Process, Revealed Here, Saves Much Essential Copper
Already Being Produced, These Large Projectiles Successfully Withstand Strain in Severe Tests
Buick engineers, working with experts of the army ordnance department, have perfected a method for manufacturing larger caliber shell cases from pressed steel and have put a huge production program under way.
This was disclosed, with War department approval today, by Harlow H. Curtice, Buick general manager. The new process, he said, will mean the saving of millions of pounds of copper and other critical metals, and will protect Uncle Sam's gunners against shortage of heavy ammunition due to scarcity of those metals.
The Buick process, which has been under experiment for several months, with final tests successfully completed and production equipment now installed and in operation, produces a shell case capable of withstanding the high pressures of gunfire, capable of easy loading and ejection from the gun chamber, meeting the requirements of operation in both hot and cold guns and free from spark hazard and obturation.
According to Mr. Curtice, the development has been applied to several sizes of artillery shell cases for the army, including antiaircraft shells. He said the process is applicable to all the larger caliber shells and has been made available to the government for use by other manufacturers in shell production.
It requires no special steels or alloys needing critical metals, as it may be produced in large quantities with the highest standards of quality, he said. At the same time it does not present a machinery and equipment problem, the manufacturing process being capable of utilizing much of existing facilities of munitions makers.
Buick engineers undertook the development at the instance of ordnance officials and experimental
U S and Finns Near Break
Washington Asks Closing of Consulates
Washington—AP—Finland and the United States were one move short of an open break in diplomatic relations today, with the Helsinki government preparing to close all its consular offices in this country in compliance with a Washington "request."
The State department
consular
and was cleared immediately" the consular section of the American legation in Helsinki.
The status of the American legation itself and that of the Finnish legation in Washington remain unchanged, but the ousting of the consulates was ominously reminiscent of similar development in German-American relations. The closing of German consular offices
Allied Bombers

BUICK DIVISION OF GENERAL MOTORS

XUM

An Award - - FOR RUSHING

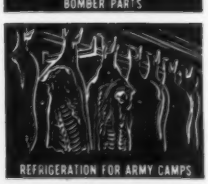
VITAL WAR PRODUCTS TO OUR FIGHTING MEN

COLD STORAGE IN TROPICAL AIR BASES

BOMB SHACKLES

GUN PARTS

BOMBER PARTS


REFRIGERATION FOR ARMY CAMPS

PORTABLE REFRIGERATION PANELS FOR MILITARY OUTPOSTS

The joint Army-Navy "E" Award flag now waves over the Chrysler Airtemp plant. This coveted banner is a tribute to the men and women of Airtemp for their round-the-clock war effort!

The citation reads, "For high achievement in the production of war equipment . . .". It was earned by meeting stiff production schedules. Vital war products and parts of a wide variety have been rushed from Airtemp production lines to meet the ever-increasing demands of our fighting men.

From delicate mechanisms and units for bombers and anti-aircraft guns to field kitchens for men on the march, all Airtemp war products are playing a vital role! They all call for high-precision manufacture, sturdy construction, unfailing performance and quality.

Chrysler Airtemp proudly acknowledges the Army-Navy "E" Award. It is a fitting reminder to every member of the organization to keep everlastingly at production on the *home front* to back up the men on the *fighting front!*

CHRYSLER AIRTEMP

AIRTEMP DIVISION OF CHRYSLER CORPORATION • DAYTON, OHIO

WAR PRODUCTS OF CHRYSLER CORPORATION: Army Tanks • Tank Engines • Anti-Aircraft Cannons • Bomber Fuselage Sections • Aircraft Engines • Aircraft Wings • Shells and Projectiles Command Reconnaissance Cars • Field Radio Cars • Troop and Cargo Motor Trucks • Weapon Carriers • Ambulances • Army Carry-Alls • Duralumin Forgings • Air-Raid Sirens • Fire Fighting Equipment • Marine Tractors • Gyro-compasses • Powdered Metal Parts • Cantonment Furnaces Field Kitchens • Tent Heaters • Refrigeration Compressors • Marine and Industrial Engines

"ATTACK FROM HERE!"

AIRTEMP'S FACTORY SLOGAN

AIR CONDITIONING - MILITARY OPERATING AND X RAY ROOMS PLASMA PRESERVATION

REFRIGERATION FOR PHOTOGRAPHIC AND AVIATION INSTRUMENT TRAILERS

TENT HEATERS

SUB CHASER REFRIGERATION

DEFENSE HOME HEATING

TEMPERATURE CONTROL FOR TOOL AND GAUGE ROOMS

Forced Savings: Press Divided On Merit of Plan

Proposals for adoption of a compulsory savings plan finds the nation's commenting press divided, with many newspapers believing that the voluntary system of War Bond buying should be continued.

"This newspaper has opposed compulsory savings," says the *Wall Street Journal* (Ind.), because "plans so far proposed have seemed to us nothing more than a rebatable tax which, designedly, would lie heaviest on the relatively small percentage of the people already heavily taxed," and because "we have yet to hear of a plan for compulsory savings that would be as effective as voluntary savings have been."

On the other hand, the New York *Journal of Commerce* (Ind.) declares, unless the "mounting totals" of currency and demand deposits are "absorbed through taxation or a compulsory savings plan," they will "constitute an ever-present threat to effective price stabilization."

Noting that "talk is heard in official circles of a scheme to compel citizens to buy fifteen billion dollars' worth of bonds annually," the Columbus (O.) *Dispatch* (Ind.) quotes Senator George (Dem.), of Georgia, as questioning the ability of taxpayers "to stand such a milking in addition to the stiff taxes they will be required to produce under the pending bill."

The Philadelphia *Record* (Ind.) says "the limit of taxation, even in wartime, is the point where taxes begin to destroy their own source—the point of diminishing returns." The *Record* advocates "encouraged savings," believing it could be done by limiting or abolishing surtaxes on earned income invested in Government bonds or "other approved investments."

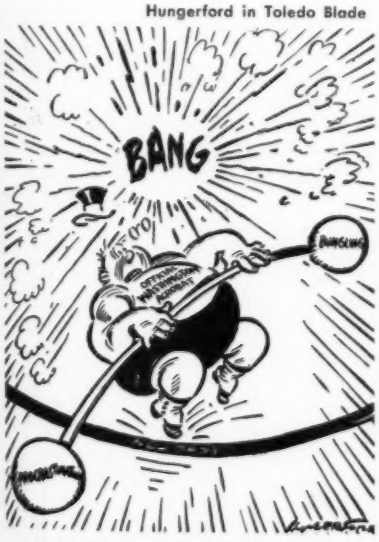
"It is evident that we are to have compulsory savings of some kind," observes the New York *Times* (Ind. Dem.), voicing approval of a plan for establishment of a joint congressional committee to make a thorough study of the proposal.

The Pontiac (Mich.) *Daily Press* (Ind.) agrees that some form of compulsory savings is in the cards, but contends that "forced savings would be a poor tribute to Americanism."

Berryman in Washington Star

CALLED AT A BUSY MOMENT

Hungerford in Toledo Blade



ECHO FROM THE BARUCH REPORT

Cookley in Washington Post

NOT MEASURING UP

Bressler in Jersey Observer

SECOND FRONT AT LAST?

XUM

"In proportion as the structure of a government gives force to public opinion, it is essential that public opinion should be enlightened."
GEORGE WASHINGTON

The United St

October 2, 1942

PRIVILEGE-AS-USUAL

By David Lawrence

We have a farm bloc which for many years has been able to control a majority in Congress.

We have a labor bloc which can, in its own interest, control a majority.

We have no bloc that represents the unorganized citizenry. We have no people's bloc.

The consequence is that privilege rides high. This is bad enough in peacetime. It is indefensible and inexcusable in wartime.

But why do we have blocs and groups and special privilege?

History shows that in all legislative bodies, blocs and groups arise when leadership that can express a sense of national responsibility falls down.

Congress as an institution did not collapse because the House of Representatives last week deliberately ignored the recommendation of the President and passed a bill boosting farm prices to 112 per cent of parity when what was asked was a reduction from 110 per cent in the existing law to 100 per cent.

What collapsed was the artificial foundation upon which Congress was asked to legislate.

For the President had said that unless Congress repealed the present law on farm-price control by October 1st, he would act anyhow. This was an invitation to the politicians to satisfy their records with constituents and let the Executive do as he pleased later.

Another explanation heard on Capitol Hill was that the President had vaguely promised to do something about wage stabilization, which, of course, affects the cost of what the farmer buys, but Mr. Roosevelt significantly refrained from asking for legislative authority to deal with wages.

LABOR CODDLED WITH SANCTION OF PRESIDENT

The President has given the labor union politicians concession after concession. Political pull, as it used to be exercised in the old days of special privilege under Republican administrations, has been flagrantly applied under the Roosevelt administration for nine years. It extends to favored persons and groups.

Thus the War Labor Board, by its decisions, has been coddling the labor group. It could not have done this except with the sanction of President Roosevelt, who appoints the so-called public members of the Board. They are wedded to his philosophy of giving labor advantages in return for its no-strike policy.

The farm bloc sees the labor bloc getting special privileges. It then demands special privileges, too.

Selfishness is contagious where economic advantages are in the hands of Government and when special privilege instead of equality of sacrifice is the rule.

EXECUTIVE MUST VOICE INTERESTS OF WHOLE NATION

Members of Congress who come from farm districts are up for reelection in another month. The President knew this when he made his startling plea for legislative action by October 1st. He put every member from a farm district on the spot. He initiated a controversy that could hardly develop any other way. Just before election the farm bloc lobbyists have their most effective command over the candidates for office.

Mr. Roosevelt was willing apparently to let labor legislation go by the boards till after election—if, indeed, he intends ever to allow any wage-freezing law to pass. His greatest source of political strength—it has elected him three times—is to be found in urban manufacturing districts. So the farm bloc acted to protect its own legislative interests.

One can blame these groups in Congress all one likes, but they are instruments of a democratic system. Members certainly reflect, as they always have reflected in days gone by, the wishes of the constituency whether it favors a high tariff so as to assure workers high wages or employers high profits, or whether it favors higher incomes for farmers or any other demand of a large organized minority.

This is not a new set of circumstances. We have had it ever since the founding of our republic. The situation has always called for national leadership in the Presidency, and it calls for such leadership today.

Woodrow Wilson's writings and speeches, both before and after he became President, emphasized the growing importance of the Presidency as the true citadel of the national interest as opposed to sectional or group interests. Mr. Wilson advocated that the President become in fact the leader of the nation—its prime minister—and that he exercise through the powers of publicity his influence with public opinion, going before the people on speaking tours, if necessary, in order to acquaint the citizens with the facts.

In these days of radio hookups that reach into every hamlet in the country, the opportunity for the President to mobilize public opinion for national

States News

"I wholly disapprove of what you say but will defend to the death your right to say it."
VOLTAIRE

Farm bloc insists on getting advantages because it sees labor bloc getting what it wants—Importance of executive leadership and need for equality of sacrifice.

leadership is even greater than it has ever been before.

President Roosevelt has again and again, by means of his fireside chats, brought public opinion to his side. But when he has succeeded, he has had a cause that was easily understood and easily defended, for he was proposing measures of benefit to the whole people.

But, it will be asked, isn't the campaign against inflation such a measure? Certainly it is. There is nothing more important to our economic welfare than to control prices now and prevent runaway inflation.

Whoever is to present, however, a program against inflation that will benefit all the people must come into the court of public opinion with a good case and a good record.

Mr. Roosevelt unhappily cannot show a good record. He has aided and abetted special privilege in his administration. He has not lost an opportunity to squelch legislation that would keep labor costs down. Everybody knows labor cost is the principal cost on our whole defense program. Although ceilings have now been put on sales prices, the Administration has failed to put a ceiling on wage costs. As long as one big group in the nation is getting a privilege, every other group that can articulate its demands will ask for the same or even more advantages.

The President's leadership on international policy has been superb, but his leadership on economic matters at home has been inept and unconvincing.

NEEDED: PROGRAM THAT EQUALIZES ECONOMIC BURDEN We cannot realign the representatives of group interests and persuade them to enter the people's bloc until equal sacrifice is demanded and obtained from all. The President has often paid lip service to the need for equal sacrifice, but both he and his lieutenants on Capitol Hill and in the executive departments have played the game of special privilege and have been more responsible for class legislation and favoritism than any lobby.

The way out is difficult but it is none the less clear.

The President, in order to mobilize public opinion, must retrace his own steps, reverse his own policies of favoritism and adopt the measures that will inspire confidence among all groups. He must eliminate discriminations where the law affects economic life.

One of the first things Mr. Roosevelt ought to do is to call a conference of the leaders of all groups and parties and lay before them a well balanced legislative program that freezes wages as well as farm prices, that actually cuts into the living standard of every group irrespective of their voting strength.

EQUAL SACRIFICE BY ALL GROUPS SHOULD BE GOAL Experience has proved already that uniformity of administration always gets better cooperation from the public than discrimination. Let the head of one business hear that a competitor is getting some exemption by political pull, and he sees red His patriotic impulses may be of the highest but his sense of anger and indignation rise to the burning point.

The same thing holds true of groups and blocs.

Mr. Roosevelt may have thought that Congressmen representing the farm bloc haven't been noticing the Administration's manner of handing out privilege after privilege to the labor union politicians. But this more than anything else has brought about the recalcitrant attitude of the House of Representatives in passing a bill demanding that the farmer's labor costs be included before a ceiling be placed on the prices at which farm products may be sold.

The business men of America have not been sufficiently numerous to make such a fight in their own behalf. For several months they have seen their own labor costs rising, so that they are gradually approaching the price levels fixed by the Office of Price Administration. They have seen tax rates threatening to wipe out all profit above costs.

The OPA has cried out in vain that subsidies are needed to protect the business men and will be even more needed if labor costs are not kept down. But the Administration only after months and months of tolerance of rising labor costs finally has given its support to a wage stabilization formula which doesn't really seek to reduce labor costs but to hold them at high levels. There is, moreover, no assurance that the formula will be adhered to, for it is vague. It does not, moreover, rest on any legislative mandate but on the weakness of an Executive who succumbs readily to pressure group tactics when labor cracks the whip.

The time has come to abandon special privilege and to make equal sacrifice a reality. The time has come for Presidential leadership to assert itself on behalf of all the people. And when this is done, Congress will respond because its members and all blocs will know that the game is at last fair to all.

XUM

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U. S. submarines are winning a battle of ships in the war with Japan. A dose of the medicine that Nazi U-boats have been giving the Allies is being handed to the Japanese.

American submarines are becoming an important factor in a war of attrition against Japanese shipping. Officials believe they will become much more important in the future. Here are reasons for that view:

Losses. As the Pictogram shows, American submarines have torpedoed 109 Japanese ships. These include 72 noncombatant ships and 37 warships. Of the total, 73 certainly were sunk and 14 more out of the total of 36 damaged probably were sunk.

At first glance, this may not look formidable when compared to about 475 Allied cargo ships sunk in the Atlantic off the American coast since January, with half a dozen American warships lost there besides. But Allied shipping losses, while still grave, have been falling lately in the Atlantic. Japanese losses are going up. They now far exceed all the damage that has been done to American naval and noncombatant shipping by Japanese submarines. And, in actual combat, the U. S. has lost only two submarines against six or seven lost by Japan.

Need for ships. Japan, an island country, is just as dependent as England upon shipping. She does not produce enough food for her 70,000,000 people or enough raw materials to keep her industries going. Among other things, Japan imports iron, coal, oil, cotton, rubber, rice, fish and wheat. Her armies, scattered from Manchuria to Burma and through the East Indies, must have munitions to keep fighting. All these things help make shipping vital to Japan and make her wide open to submarine attack.

Shipbuilding. Despite her efforts to build a big, modern merchant marine, Japan at the start of the war had only about 6,000,000 tons of shipping, half that of this country and one-third that of Britain. Japan's capacity for shipbuilding is limited by small steel output, and before the war was less than 500,000 tons a year. The destruction by U. S. submarines probably has exceeded this rate of replacement, and losses inflicted by American planes have sent the total well above Japan's building mark.

At the same time, the American submarine war is cutting into Japan's power to protect her cargo fleet with warships. The total submarine score of 37 warships is part of the grand total in all kinds of fighting of nearly 150 Japanese warships sunk or damaged. This is believed far beyond the capacity of Japan's navy yards to replace.

And America's submarine warfare is just beginning. New construction is planned to triple the size of our prewar submarine fleet. So, in the end, U.S. submarines may be headed for a decisive part in victory over Japan.

CONFUSION OVER PREMIUM PAY

Apparent Conflict in Orders Hampers Employer-Union Negotiations

Questions being raised on how President's edicts are to be construed

Employers and labor leaders are uncertain about two orders from Washington concerning week-end and holiday pay for workers. At stake are a number of contracts between employers and unions calling for payment of overtime and double time on Saturdays, Sundays and holidays. Official interpretation of the orders does not clear up all the questions being asked by labor and management.

The trouble is this:

One day, President Roosevelt issues an executive order establishing a completely new policy on payment of overtime to workers engaged in producing for war. A week later, he issues another order which appears to reverse the first one.

The original order forbade payment of double time for work performed on Saturdays, Sundays and certain holidays when those days fell within a regular 40-hour work week. Time and one-half could be paid for a sixth consecutive day of work and double time for a seventh, but only time and one-half could be paid for holidays and only for six of those in a year. The holidays were New Year's, July 4, Labor Day, Thanksgiving, Christmas and either Memorial Day or "one such other holiday of greater local importance." No more than time and one-half could be paid for work in excess of an eight-hour day or 40-hour week, short of a seventh day.

Reason for the order, Mr. Roosevelt said, was to insure uniformity and fair treatment to employers and workers who already had agreed on such wage policies.

Here were explicit instructions for employers to follow in paying their workers even though the provisions ran contrary to their contracts with the unions. There was little doubt as to the meaning of the overtime rules, despite questions raised in the minds of some as to the President's authority to abrogate contracts.

But, a week later, the order was amended in a manner that appeared to remove the element of uniformity in overtime pay which the President had said was so desirable. This second order gave Secretary of Labor Perkins the power to determine whether the first order should be carried out.

In other words: The Labor Secretary was authorized to say which contracts between employers and their workers should be abrogated and which should stand. The test for the Secretary to follow was this:

She could set aside the order in any industry in which she found a wage stabilization agreement or contract, approved by the Government, to be working satisfactorily. Also, she could set aside the order in any industry in which she found that the "nature and exigencies of operation" made overtime pay necessary or advisable for successful prosecution of the war.

Unions and employers are moving slowly toward compliance in view of the uncertainties raised by the apparent contradictions in the two orders. They are asking whether they should renegotiate their contracts immediately, or take advantage of the opportunity afforded by the second order, allowing them to petition the Secretary of Labor for exemption. Meanwhile, management and union lawyers are searching the amended order for "jokers," and demands are heard that overtime standards shall be uniform and universal.

Such questions as these are being asked:

Teamsters Union of the American Federation of Labor is asking what effect the order will have on the numerous holidays incorporated in its contracts covering local patriotic or religious occasions.

AFL Machinists are wondering whether it applies to their week-end double time contracts with garages that service truck fleets. The Machinists have instructed locals to be prepared to renegotiate contracts, but to wait until management makes the first move.

—Acme

SECRETARY PERKINS
Double time at her discretion

In an interpretation of the orders, Secretary of Labor Perkins says their purpose is to keep war plants operating "round the clock" without interruptions caused by absenteeism, and to insure every worker one day of rest in seven. Knowledge that they can get double time for Sunday work often impels workers to lay off on week days. By working for the double pay, their weekly pay envelope does not suffer with one day of work less. One day of rest a week, the Secretary says, is a necessary safety and health precaution.

An annoying factor to the Congress of Industrial Organizations is the knowledge that one big AFL union will continue to receive overtime for work performed on Saturdays, Sundays and holidays falling within the regular work week where this has been the practice in local agreements. AFL Building Tradesmen employed on Government war contracts will continue to get time and one-half for week ends and holidays as such under the terms of a stabilization agreement entered into with the old Office of Production Management more than a year ago. The President's amendment to his original order exempts such stabilization agreements as this.

So the best advice to both unions and managers appears to be to study the Secretary's interpretation carefully and seek to work out individual problems around a conference table. Effective date of the order is October 1.

Union security. War Labor Board again has demonstrated that it has no patience with unions that violate labor's wartime no-strike pledge, and that it will not hesitate to punish such violators when it has an opportunity.

Latest demonstration of the Board's attitude is its refusal to grant maintenance of membership at this time to union members employed by the General Chemical Co., Buffalo, N. Y., because they went on strike while the issues of their dispute were being negotiated.

The union in this case, however, will have an opportunity to prove that it is worthy of such protection. The Board postponed final decision on the matter for six months, with the observation that it would be entirely up to the union whether its record during that time would justify granting of maintenance of membership.

—Wide World

WOMEN IN THE FIELD
Girls to the labor front, men to the war front

Farm Labor Problem: Need for Skilled Help

The man-power shortage is striking at the heart of America's food supply. Another year of war will see more than a million men leaving the farms for the Army and for industry. This may have a serious effect upon the 1943 harvest.

In one short year the United States conceivably could change from a land of abundance to a land of scarcity. The combination of a bad growing year and land that has been poorly prepared because of labor shortages and rundown machinery could bring about such a change.

This prospect explains why farm leaders are beginning to talk about conscripting labor, why they are appealing to draft boards not to strip farms of skilled hands. Draft Director Lewis B. Hershey recognizes the need for keeping skilled workers on the farms and has advised local boards to defer such workers whenever possible.

Here, in brief, is the farm labor picture:

Now. Industry and the armed services already have taken thousands of farm workers, but the pinch has not been so serious up to this time. By working harder themselves, and with the help of older men, women and children, farmers have produced the biggest crop in history.

Cold figures show that there were 11,390,000 workers on farms on September 1, a total slightly higher than a year ago. But these figures do not tell the whole story. They do not reflect the number of inexperienced and less efficient helpers—girls and boys, women and older men—the farmer has had to recruit for harvest.

Next year. Food requirements of the United States and her allies will be as large in 1943 as in 1942, perhaps larger. But the prospect of producing such a yield is dark. Farmers cannot compete in the labor market with the high wages paid in war plants. They are turning to the Government for help, are relying on such expedients as those suggested by Secretary of Agriculture Wickard:

Transporting of workers from surplus areas to critical areas; Government-sponsored programs to train farm workers; draft deferment for experienced farm managers; heavy reliance upon women and younger workers; asking industry to recruit workers from cities instead of farms; aiding farmers through federal loans to increase output by using underemployed labor full time.

Industrial accidents. High accident rate in war plants is causing concern among unions and plant managers. Labor is demanding more liberal insurance benefits for crippled workers, and many State labor offices are urging legislatures to adopt safety legislation. Reasons for the concern are these:

Between December 7 and August 7, 12,000 more workers were killed in industries than were listed as killed, wounded or missing in naval warfare. Industrial accidents exacted the following toll in 1941: 19,250 killed, 115,000 blinded or crippled, and 2,298,000 injured. Figures are those of the American Federation of Labor.

War Strikes

Eleven major strikes affecting war production were reported in Washington during the week ending September 19. They involved 7,007 workers and resulted in the loss of 24,706 man-days of labor. Four of the strikes, involving 3,861 workers, began prior to the week of September 19, but carried over into that week. The total for the week represented a decline of seven from the previous week and a decline of 13 from the week of September 5.

The totals:

- **8 CIO strikes.**
- **1 AFL strike.**
- **1 strike involving a CIO and an independent union.**
- **1 strike involving an independent union.**

At least 200 employes were involved in each of the strikes reported.

Involving CIO Unions

FUR AND LEATHER WORKERS:
American Hide and Leather Co., Lowell, Mass.

UNITED AUTO WORKERS:
Benton Harbor Malleable Industries, Benton Harbor, Mich.
Muskegon Motor Specialties Co., Jackson, Mich.
National Battery Co., Depew, N. Y.

DIE CASTERS:
Central Pattern and Foundry Co., Chicago.

STEEL WORKERS:
Pitcairn Co., Valve Division, Barberton, Ohio.

UNITED MINE WORKERS:
Standard Ultramarine Co., Huntington, W. Va.

ELECTRIC, RADIO AND MACHINE WORKERS:
Wabash Photo Laboratory Corp., Brooklyn, N. Y.

Involving AFL Union

AMERICAN FLINT GLASS WORKERS:
Kimble Glass Co., Vineland, N. J.

Involving CIO and Independent Union

CIO DYERS FEDERATION TEXTILE WORKERS OF AMERICA and IND. AMERICAN TEXTILE WORKERS UNION:
Bellman Brook Bleacheries, Fairview, N. J.

Involving Independent Union

WOOLEN WORKERS ASSOCIATION:
Irving Worsted Co., Chester, Pa.

SCRAP
left where
Hitler wants it

. . . Rusting away all over this country . . . can help lose the war for America. For half of every tank, gun, ship, and submarine is made from scrap.

Some steel furnaces are down, and others are working from hand to mouth, because there's an acute shortage of scrap metal, which is remelted with pig iron to make our machines of war. Unless 6,000,000 additional tons of scrap is uncovered and turned in promptly, the tanks and guns and ships so desperately needed cannot be produced. Result: a longer, harder war.

There is enough scrap in this country to see us through — millions of pounds of it in the form of wornout or obsolete machinery, rusted old pipes, fencing, pumps, chains, and boilers. America's scrap must be turned in. Every factory, warehouse, store, shop, farm, attic, basement and garage must be combed for every last pound of scrap, if we are to give our fighting men the fighting machines they must have to win. The time is short.

From the beginning, the Norfolk and Western Railway has cooperated in the nation's campaign to salvage scrap for America's war effort. This Railroad is accumulating and turning back into productive channels approximately 5,500 tons of scrap metal per month—and is reclaiming everything down to the smallest nut and bolt.

Norfolk and Western Railway

COPR. 1942 N. & W. RY

Question of the Week

Title Reg. U.S. Pat. Office

Does Constitution Give President Power to Fix Prices in Wartime?

Congressional measures for the control of inflation have aroused discussion throughout the nation. The President told Congress in his Labor Day message that he would act himself to regulate the cost of living by fixing farm prices and stabilizing wages unless legislation authorizing him to do so were enacted by October 1.

To present a cross section of informed opinion, The United States News asked members of Congress and authorities on constitutional law the following question:

In your opinion, has the President power under the Constitution to fix wartime prices as a measure for successful prosecution of the war?

Some answers were printed last week. More appear herewith.

O. R. McGuire

Washington, D. C.; Chairman, Administrative Law Committee, American Bar Association 1938-41.

answers:

The unequivocal terms of the Constitution give the legislative power to the Congress with a qualified veto to the President, and the executive power to the President. It vests the judicial power in the Supreme Court and such inferior courts as the Congress may establish. The President cannot exercise the power delegated to him in a statute enacted by the Congress unless that statute prescribes the standards and channels the delegated authority—as the Supreme Court has recently determined in the "hot oil" cases. Much less can he exercise legislative authority which is not delegated to him; that is, in the absence of statute or contrary to statute.

The fact that he is Commander in Chief of the Army and Navy gives him no undefined well of authority from which to draw, as seems to be claimed in the President's Labor Day message.

The people, through their Congress, are the creators and supporters of armies and navies, and they can and have legislated thereto. Nowhere in any such legislation can there be found any such legal authority as President Roosevelt has claimed in the aforementioned message.

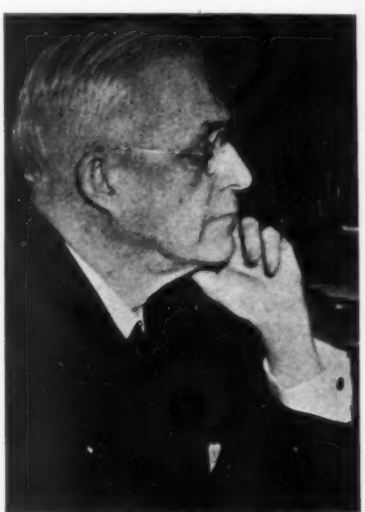
William Draper Lewis

Philadelphia, Pa.; Director, The American Law Institute; Former Dean of Law Department, University of Pennsylvania; Author of "Interpreting the Constitution."

answers:

Limitations on the wartime power of the President have always been and will always be a matter of dispute. That those powers are very great, no one denies. On the other hand, it is natural that one pause before consenting to the proposition that the President has the sweeping power over wartime prices which he asserts.

Personally, I believe that the test is whether such a power is at the time it is exercised reasonably necessary for the successful prosecution of the war. Applying this test, I believe that the President now has this power in view of existing conditions. The President, should he exercise the power, assumes a grave responsibility, but it is one that he cannot avoid; even if the Supreme Court should ultimately express an opinion in an appropriate case that there was a usurpation of power, that would not make it necessarily unconstitutional.



—Underwood & Underwood

WILLIAM DRAPER LEWIS

The President, like the judges of the Supreme Court, is under duty to uphold the Constitution. In ordinary circumstances he should follow the opinion of the Supreme Court, but, when the life of the nation is at stake, he is inevitably placed in a position where it may become his duty to disregard the opinion of the Court.

Wayne L. Morse

Washington, D. C.; Member, National War Labor Board; Dean, Law School, University of Oregon.

answers:

I have expressed myself rather completely on this point in my decision upon

"Stevens, it seems to me that an increasing number of very important companies are advertising in The United States News."

"You're right. This list shows they are running 101 new accounts since the first of the year in addition to 110 accounts which renewed their 1941 schedules."

"It's good business to swim with the current. Let's do it. Our company's advertising will be read by exactly the men we want to influence most. Take care of it, will you?"

The United States News

Daniel W. Ashley, Vice President in charge of Advertising

How Tom Jensen Saved the Army a Lot of VALUABLE TIME

Along with planes, tanks and guns, the army needs ammunition chests. Making them involved an operation which, besides consuming too much time, demanded a turret lathe—and you know how scarce *they* have been. Deliveries were painfully slow.

Tom Jensen works in the factory that had the job. He's not a production engineer, but he got an idea about those chests. Because his employer maintains a Morton Suggestion System, Tom was sure of fair treatment and found it easy to submit his suggestion to responsible officials. Result, the bottle neck broken: punch presses do the work, the lathes are free for other tasks, and the army is getting ammunition chests twice as fast as before.

Maybe *your* workers could suggest ways to step up *your* production. A Morton Suggestion System provides the means for gathering good ideas. More than that, it actually stimulates employee thinking. Over 9,000 firms have used Morton Systems with profit—their savings total many millions of dollars.

Today, with efficient operation at an extra premium, with lives as well as dollars at stake, you need the ideas, the morale-lift, a Morton System can bring to your plant. It costs nothing to ask for details. Ask for them—today.

MORTON MANUFACTURING CO.
SUGGESTION SYSTEM DIVISION
324 N. Leamington Avenue, Chicago, Illinois

Please send full information about the Morton Suggestion System. It is understood this request places us under no obligation. We have about _____ employees.

Company Name_____
Address_____
Individual_____
Title_____

the Board's jurisdiction written in connection with the "little steel" case. As I pointed out in that decision, the President in exercising his war powers may do whatever is necessary to the preservation of the nation's security. The President's powers in time of war must be measured according to the exigencies of the situation.

In my opinion, the powers of a President in wartime must necessarily extend beyond a President's peacetime powers, since the Executive in wartime needs greater power in order to fulfill his oath to "preserve, protect and defend the Constitution of the United States" and in order that, in so preserving the Constitution, he may fulfill his guarantee to every State in the union that it shall have a republican form of government and that it shall be protected against invasion.

William H. White, Jr.

Charlottesville, Va.; Professor of Law, University of Virginia,

answers:

The President does have the power under the Constitution to fix wartime prices as a measure for the successful prosecution of the war. I base that view on the following:

Under the Constitution: "The President shall be the Commander in Chief of the Army and Navy of the United States and of the militia of the several States when called into the actual service of the United States."

The Army, Navy and militia have been called "into the actual service of the United States," so that the President now acts as "the Commander in Chief." So far as I am aware, the President's powers as Commander in Chief have not been delimited by the courts. Assuming that the courts had in some other war limited the President's powers as Commander in Chief, such decisions would not, in my opinion, necessarily be binding in this war because his duties and powers as Commander in Chief must be determined by the characteristics of the particular war in which he exercises those powers.

Assuming the fixation of wartime prices is a measure necessary for the successful prosecution of this war, it must follow that the President does have the power to fix wartime prices. This only in the absence of prior action on the part of the Congress, which step the Congress may take under Article I, section 8, paragraph 18, of the Constitution, or, putting it another way, the President may as Commander in Chief take such steps and do such acts as are not specifically within the power of the Congress under the Constitution, so long as Congress itself has not acted. The President could not, for example, under his powers as Commander in Chief of the Army and Navy "borrow money on the credit of the United States" nor could he do any other act which the Congress is under the Constitution specifically authorized to do.

Senator Burton

(Rep.), Ohio; Member, Senate Committees on Judiciary, Investigation of National Defense, Gasoline and Fuel Oil Shortage,

answers:

The President probably has the constitutional power to fix wartime prices to sustain our war effort, especially if it is in danger of collapse because of failure of Congress to act on those prices. That condition does not exist and he should not consider taking such action. The President needs only to co-operate with Congress fully and cordially to help provide for fixing those prices. Inevitably it will be an administrative procedure, but it should be done under the general direction of Congress. Congress should respond in like manner.

Leslie C. Garnett

Washington, D. C.; Chancellor, National University; Former Assistant Attorney General of the U. S.; Former United States District Attorney for the District of Columbia,

answers:

The Constitution grants no power to the President to fix either wartime or peacetime prices, and the national emergency

—Underwood & Underwood
LESLIE C. GARNETT

cannot create a power which is not so granted. Such emergency can only serve as a reason for the exercise of powers already granted. The Supreme Court, in *Ex Parte Milligan*, said:

"The Constitution of the United States is a law for rulers and people, equally in war and in peace, and covers with the shield of its protection all classes of men, at all times, and under all circumstances. No doctrine, involving more pernicious consequences, was ever invented by the wit of man than that any of its provisions can be suspended during any of the great exigencies of government. Such a doctrine leads directly to anarchy or depotism . . ."

News-Lines

Title Reg. U.S. Pat. Off.

What you as a businessman CAN and CANNOT do as a result of federal court and administrative decisions:

Conclusions expressed in these paragraphs are based upon decisions and rulings of courts and Government bureaus. In making their decisions, courts and bureaus consider many facts which, for reasons of space, cannot be set forth in detail. The United States News, *on written request, will refer interested readers to sources of this basic material.*

YOU CANNOT obtain ***fuel oil*** for heating an apartment house, commercial, industrial or institutional establishment that has facilities to convert its furnace to coal. The Office of Price Administration announces that owners must report on the convertibility of their furnaces when they register for fuel oil rations.

* * *

YOU CAN, as a prime contractor engaged in building airplanes, naval and military establishments, now purchase both standard and portable ***typewriters***. The OPA order broadening rationing regulations also applies to labor unions, employers' associations and agencies involved in war work.

* * *

YOU CAN, as a private buyer of ***flue-cured tobacco,*** pay higher than ceiling prices for top grades, provided your average price for the season of Aug. 31, 1942, to Feb. 28, 1943, does not exceed the average price for the base period, Aug. 24-28, 1942. The OPA order supersedes an earlier one establishing two 30-day price-averaging periods.

* * *

YOU CANNOT, as a packer of ***dried fruits,*** such as apricots, peaches, pears, prunes, figs and raisins, charge more than ceiling prices. The OPA has set these ceilings at 110 per cent of parity.

* * *

YOU CANNOT continue manufacture of ***armored cable,*** commonly referred to as "BX" cable, 30 days after Sept. 19. The War Production Board suggests use of a substitute sheath in interior wiring systems.

* * *

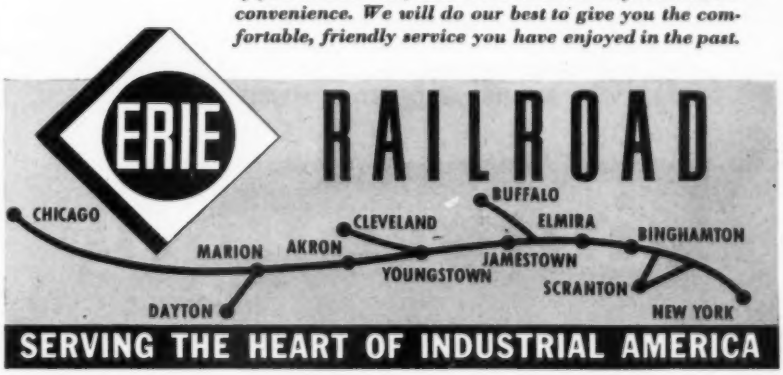
YOU CANNOT refuse payment of an adjusted wage to an employe who has quit or been discharged between the retroactive date of the wage increase and the date of the order placing the increase

Full speed ahead . . .

we've got a date with the Axis!

• The arms American industry is turning out in ever-increasing quantities can't gather dust at home. They've got a date to keep—with the Axis! So the conductor's signal sends the fast freights roaring down the main on wartime schedules. Erie trains are proving to industrial America that transportation *can* keep pace with production.

If you must travel, make reservations early to avoid inconvenience. We will do our best to give you the comfortable, friendly service you have enjoyed in the past.



SERVING THE HEART OF INDUSTRIAL AMERICA

HELPING BURROUGHS USERS MEET TODAY'S PROBLEMS WITH THEIR PRESENT EQUIPMENT

Ideas that may help you get more out of Burroughs machines you now own

Extend use of machines to other jobs—

by determining whether your machines can handle more work or new jobs . . . posting more records in combination . . . obtaining statistics or figures for reports as by-products of your regular posting routines.

Eliminate bottlenecks that slow up work—

by relocating machines or rearranging the flow of work to the machines . . . changing routines or methods to avoid rehandling of figures or records . . . eliminating unnecessary checking and proving.

Make better use of your equipment—

by relieving operators of non-posting duties . . . using relief operators . . . making sure that operators know short-cuts and how to make the best use of time-saving machine features.

Avoid mechanical interruptions—

by keeping machines in the best possible operating condition through regular inspections, cleaning, lubrication and accurate adjustments by Burroughs mechanical service men.

The Burroughs systems and installations staff, with its technical knowledge of machines, applications and procedures, can help you meet your changing accounting requirements. Burroughs factory-trained, factory-controlled service organization is ready to render efficient mechanical service to all users. Just call the local Burroughs office, or, if more convenient, write direct to—

BURROUGHS ADDING MACHINE COMPANY, DETROIT, MICH.

Burroughs

★ FOR VICTORY—BUY UNITED STATES WAR BONDS AND STAMPS ★

in effect. The War Labor Board has ruled the employe shall receive the amount of the increase up to the time his employment was terminated.

* * *

YOU CAN no longer manufacture ***metal doors, frames or shutters*** either for military or civilian use. Only exception to the WPB order is for fire doors meeting certain specifications and doors for airplane hangars.

* * *

YOU CANNOT, as a retailer, wholesaler or manufacturer of ***shoes,*** set different maximum prices for styles within a certain "line" of footwear. OPA has ruled that the ceiling price for each style in a "line" is the highest price charged during March, 1942, for any style in that "line."

* * *

YOU CAN no longer manufacture 50 and 75-watt ***electric light bulbs.*** WPB believes 40, 60 and 100-watt bulbs will be sufficient and that curtailment will cut down inventory stocks.

* * *

YOU CAN, as a manufacturer of dairy supplies or distributor of cloth for agricultural purposes, use an A-2 priorities rating to obtain cloth needed from mills. WPB said the order was necessary because of the large amounts of Osnaburg yardage going into bagging as a substitute for burlap, making it difficult for agricultural users to obtain delivery.

* * *

YOU CAN, as a producer of ***iron and steel,*** accept deliveries of maintenance, repair and operating supplies in excess of the amounts authorized under the Production Requirements Plan when necessary for essential operations. WPB recognizes the difficulty mills may have in estimating in advance their operating and maintenance needs.

* * *

YOU CANNOT continue business as a secondhand dealer in machine tools or machinery after Nov. 2, 1942, without registering with OPA.

* * *

YOU CAN resume production of ***gas unit heaters,*** adaptable for economical heating of large floor spaces. In view of other WPB restrictions, removal of the production ban is not expected to make the heaters available to anyone but the armed forces and war plants.

* * *

YOU CAN, as owner of a property you wish to convert from oil to coal heat, enter into an agreement with the tenant, if the latter is willing, to share costs in the form of higher rent. Such agreements, however, must have the approval of the area rent director.

Plus and Minus

Title Reg. U.S. Pat. Off.

2201 M Street, N. W.
Washington, D. C.

Trend of American Business

Title Reg. U.S. Pat. Off.

Mr. Roosevelt will go ahead with plans for wage control, farm price control, salary control with or without Congress approval. He's committed to that.

So: It isn't wise to conclude that Congress is blocking inflation control.

What Congress is doing is balking at responsibility for checking farm income rises. It wants the President to take that political responsibility. It doubts that he will give farmers the same kind of break he will give labor.

Result is that Mr. Roosevelt might have to act on his own. He has his plans made. However: With a compromise, he will have more direct enforcement powers for what he wants to do. He doesn't share Congress fear of farm belt opposition.

In the case of farm prices.....

President's idea is to check prices near present levels. He doesn't intend to "freeze" prices, to place an absolute ceiling. Increases might be controlled.

Then: If increases exceeded those planned, tariffs could be lowered to let in Canadian wheat, or Argentine corn, or Australian wool. Or: Army could buy more Argentine beef, less U.S.; more Australian mutton, less U.S. And so on.

That's the plan if Congress balks. It's what would be done if forced by events. But: Congress is expected to come through with a compromise; to give the specific powers that would permit Mr. Roosevelt to act more directly.

In the case of workers' wages.....

President's idea is to go along with the War Labor Board's formula for a limit of 15 per cent on wage increases after January, 1941, except for what may be substandard wages. He is accepting that basis for wage control.

Again: That isn't strict wage freezing. It's a slowing of wage advances.

There's an enforcement club in denial of Government protection to unions that make excessive demands, in use of Government contracting power to write definite wage clauses in those contracts, in other uses of Government war powers.

In the case of salaries.....

Here the President's idea is to limit salaries of corporation executives. He still has in mind a top of $25,000 after taxes. That's his announced goal.

And: His idea also is to bring all salaries under control, just as wages are to be under control. There wouldn't be a fixed ceiling, a denial of any increase in salary, any more than there would be of wages or farm prices.

Enforcement here again would lie in Government power to write contract terms, in power to limit the deductions allowed as costs in computing taxes.

Salary-control ideas are generally overlooked. They're on the horizon with no one much interested. Yet: These controls will carry meaning for millions.

Plans shaping inside the Government appear to call for:

1. A bar to salary increase after Sept. 15, except as officially approved.
2. A limit on executive salaries in companies doing Government business.
3. A bar to bonuses to executives or workers except where already in effect.
4. An effort to check general "upgrading" of workers as a means of giving them higher salaries. It is recognized that this check may be difficult to apply.
5. An effort to bar creation of new jobs at higher salaries.

If these plans are applied, as now intended.....

(over)

XUM

Employers seeking to prevent loss of workers to higher-paying competitors will need to seek WLB sanction to raise salaries. Many such requests are likely.

Salaried workers, if seeking raises, will have to organize and demand them, taking their disputes to the WLB for decision. Standards to apply would be those now applied in granting or denying wage increases. They include: (1) living cost increases; (2) inequalities; (3) whether existing salaries are substandard.

Enforcement will be through denial of deductions for income tax purposes if those deductions represent increases due to payment of higher salaries. At least that's the idea. There is question of its legality unless Congress approves.

When it comes to taxes.....

It's now almost certain that a 1942 revenue act will wait till after election. And: Uncertainties will remain for individuals and corporations until then.

The way the situation now looks:

In general: Senate is trying to ease up a bit on corporations, compared with the House, and it hit individuals hard. That may require some heavy trading.

Victory tax: It is staying in the Senate bill at 5 per cent on gross income above $624 a year. But: To sell that idea to the House may call for a Senate agreement to accept a 45 per cent normal and surtax on corporations against the 40 per cent in the Senate bill. House otherwise may force its withholding tax.

Individual excess-profits tax: Senate committee killed the idea for this year. It called for a 50 per cent tax on all income in excess of a base period.

Sales tax: Definitely dead for this session.

Pay-roll tax: Now better than a 50-50 chance that tax of 1 per cent each on employers and employes will be frozen against an automatic increase January 1. Treasury plan to ask for a 3 per cent pay-roll tax increase, in addition to the automatic increase, is dying if not dead. Congress definitely would bar that.

Forced savings: Put off until next year for study.

Prospect is small that Congress will repeal contract renegotiation power; that it will substitute a flat percentage ceiling on war profits.

Instead: There's almost certainly to be modification of the renegotiation law; there's to be a set of standards that will meet some business objections.

For one thing, it's about agreed that a set of contracts, once readjusted, cannot again be opened. Now there is continued uncertainty on that score.

For another thing, it's agreed that power to reopen contracts for three years after the war shall be limited or removed. That, too, is a business worry.

For a third thing, several new, more technical standards will be inserted.

Then: Businessmen will be expected to take the changed act and work with it. Army, Navy, Maritime Commission all are opposing a flat percentage profit ceiling.

A work-or-fight draft policy gradually is emerging. It won't come all at once. But: Officials are feeling their way and the direction is set.

There is a start with coal miners. Miners who take too many days off, who shirk their jobs, will face reclassification by their draft boards and Army jobs.

Maj. Gen. Hershey explains that this type of order isn't to apply to strikers. Not yet. However: It may in the future, if strikes become serious again.

Idea is that war workers are deferred because their work is more vital than Army service. When they dodge that work then they become valuable to the Army.

Time when Selective Service will designate occupations which no draft-eligible man can fill and remain deferred from service is gradually approaching.

Draft law can be a powerful weapon to keep labor in line during the war. At the same time, labor also can use the law to protect some of its interests.

"The Yeas and Nays"

Title Reg. U.S. Pat. Off.

EDITOR'S NOTE: *Brief letters of comment and suggestions are invited. Those not intended for publication, and those with which writers desire to have only initials used, should be so marked.*

How Can Ex-Officers Serve?

Sir:—In the September 18 issue of *The United States News* an article appeared which was headed: "How a Civilian Can Get an Officer's Commission." What many of us would like to know is how former officers can get either a commission, a civilian position with the War or Navy departments, or an opportunity to serve with the many agencies doing war work.

Since the appointment of Donald Nelson as chairman of the War Production Board, there has been a constantly growing stream of these men trying for recommission or employment in some capacity where their services would seem to be most useful. They have filled out so many questionnaires and made so many resultless trips to Washington that they do not know what further can be done unless some champion takes up their cause.

Paul McNutt of the War Manpower Commission, and others talk about the shortage of man power. Still others put on campaigns to salvage old rubber and tin cans. We are willing to give priority to junk if only someone will pay a little heed to former officers and executives in the 45 to 55-year-old class.

New York, N.Y. W. E. M.

* * *

On Limiting Farm Prices

Sir:—Farmers are now producing more food than at any time in the history of the country and will produce still more if the Government removes production controls.

I think that controlled salaries, wages and net income would enable the law of supply and demand to control farm prices equitably, effectively and automatically.

I think that middlemen's food prices to consumers in the present emergency should be rigidly controlled.

Whitman, Nebr. C. J. MACH

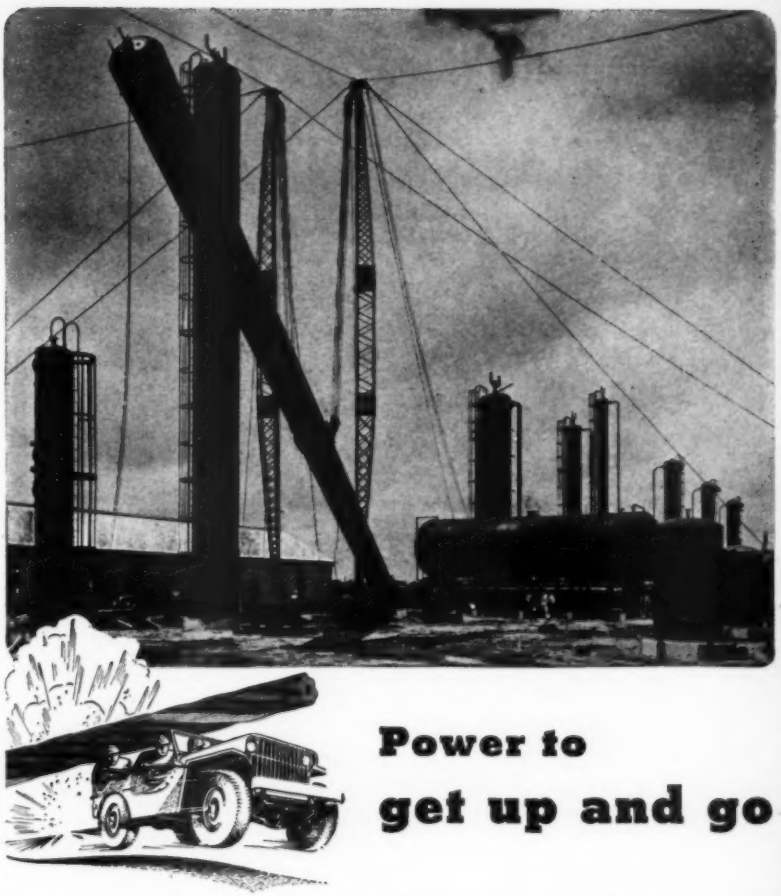
* * *

Politics vs. Victory

Sir:—We, the people, are furious with Congressmen who put politics above everything else. Don't they know that the surest way to be re-elected is to put winning the war first?

Also, we are frantic with feelings of personal and individual inability to do anything about it before it is too late. We could if we were organized and directed.

Manitou Springs, Colo. E. S. CLEMENTS.



Power to get up and go

Give the flashing jeep its due. But let's credit some of its get up and go to fighting fuel. And remember that the petroleum industry does more than *produce* for the war program. Its members *conserve* oil, too, by constantly improving methods. Just as many of them save steel—for more jeeps, tanks and shells—by using the highest quality wire rope: *Preformed* Yellow Strand.

To hoist heavy refinery towers, drill deep wells or lay emergency pipe lines, rope strength must be fortified by manageability and fatigue resistance. They're all in *Preformed* Yellow Strand. That's why its drawn-to-order steel wires survive stresses that take the toll of lesser grades . . . why doubled service is not uncommon. America needs the higher output, the time and materials released for other tasks by *Preformed* Yellow Strand's longer life.

There's no room for slack today in any wire rope usage, old or new. The nearest B & B branch or distributor will gladly assist in keeping your equipment at the peak of its efficiency.

Broderick & Bascom Rope Co., St. Louis

Branches: New York, Chicago, Houston, Portland, Seattle. *Factories:* St. Louis, Seattle, Peoria

YELLOW STRAND

PREFORMED WIRE ROPE

A Mainstay of War Production, Through Its Service to

PLANT ENGINEERS • ROTARY DRILLERS • GENERAL CONTRACTORS • ROAD BUILDERS LOGGERS • MINERS • QUARRY OPERATORS *and* OTHER INDUSTRIAL SERVANTS

OUR CLUB OVER VICHY

Billion in 'Frozen' French Assets as Stake in War of Diplomacy

Laval's chief supporters risk loss of wealth if nation joins Axis

A French stake of $1,250,000,000 in gold and other possessions in the United States, all "frozen" by the American Government, apparently is giving Pierre Laval, chief of the Vichy Government, a headache whenever he contemplates putting France back in the war on the side of the Axis.

What makes the headache worse is that hundreds of millions of dollars of this wealth reputedly belong to the rich men of France who are supporting the Laval regime.

So long as France remains out of the war, this frozen wealth will be held and administered by the American Government for its owners and they ultimately will get it back. But, the day France enters the war on Germany's side, the entire amount would be subject to confiscation. And confiscation would mean loss of wealth to some of Laval's chief supporters.

In other words, it would cost Laval's Government and Laval's personal friends and supporters approximately $1,250,000,000 in American-held treasure if Laval should join Hitler in war against this country and Britain. The cost probably would be the same should Laval have France go to war against Britain alone. Such a move, it is believed, would result in recognition by the U. S. of a state of war with France.

Thus the presence in America of these frozen French assets may have had much to do with Laval's failure to declare war against England after the British took Syria and, more recently, Madagascar. The importance of the frozen French wealth in the international chess game apparently can hardly be magnified.

Latest public figures indicate the value of frozen French holdings in the United States. In December, 1940, nearly two years ago, the total was estimated by Treasury officials at $1,594,000,000, but, since that time, it is reported, the gross amount has been reduced. The Treasury estimate, given to a House appropriations subcommittee, showed frozen French assets in this country then as follows:

Bullion, currency, time and demand deposits, $988,000,000.

Securities, foreign and domestic, $448,000,000.

Credit instruments and claims, $59,000,000.

Goods, merchandise and chattels, $17,000,000.

Real property and all other property interests, $10,000,000 and $72,000,000, respectively, a total of $82,000,000.

Much of the first item, $998,000,000, is in the form of gold bars and coin hurried out of France to New York for safekeeping in 1939 and early 1940. That was after war had been declared, but before the fall of France. A considerable part of this gold and a great volume of securities had been shipped across the Atlantic even before that time—in the hectic days before the Munich conference when the fate of Czechoslovakia was determined.

Hundreds of millions in gold had crossed the ocean in the crack liner *Normandie* and other French ships. Some had been transported under the British flag. In addition, there was smuggled out of France, in the days when the Government was toppling, a shipment of gold bullion and coin estimated at $200,000,000 aboard the French cruiser *Emile Bertin*. That shipment went to the island of Martinique and presumably is still there—within easy reach of American arms should France under Laval throw in her lot with Hitler.

The French securities frozen in the United States are largely stocks and bonds of French and American corporations. These joined gold in its flight from France in the prewar days. Real estate and other French property in the United States consists in part of steamship lines, motion picture agencies, perfume houses, hotels and other business establishments. These, however, constitute a relatively small part of the whole.

Gold bullion and coin probably make up the bulk. All this has been taken over by the Treasury Department and earmarked for its owners. Much of it is said to be buried in the mammoth gold depository at Fort Knox, Ky. The Treasury also has

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taken over the securities for the war's duration and these are being held against future developments.

Physical properties owned by the French Government and its nationals are being operated under the supervision of the Alien Property Custodian, apart from the Treasury. These concerns have been licensed to do business under strict American supervision. Their officials, for instance, may make no important business move or arrangement without first obtaining consent of their American supervisors; they may issue no checks without the counter-signature of American officials.

Owned in most cases by wealthy supporters of the Laval regime, these properties will be returned after the war—unless France should go to war for the Axis.

Thus it is up to Laval to determine

—Harris & Ewing

GASTON HENRI-HAYE
Frozen funds cool his boss

whether his friends get their American-held possessions back after the war. He has said openly that he wants the Axis to win the war, but such a statement is not in itself an act of hostility. Thus far, Laval has been careful to avoid any actually hostile act toward the U.S., and in the huge frozen French possessions here some officials see the reason for his prudence.

At present, French funds and property are treated on a parity with the blocked funds of other nonenemy countries. The Treasury exercises rigid control over them, even to the extent of permitting the French Ambassador, Gaston Henri-Haye, to withdraw little more than a subsistence allowance monthly for the French Embassy. How much he is allowed to draw is a Treasury secret, along with details of all transactions in all blocked accounts, but the Treasury makes sure that it is not much more than enough to meet ordinary needs.

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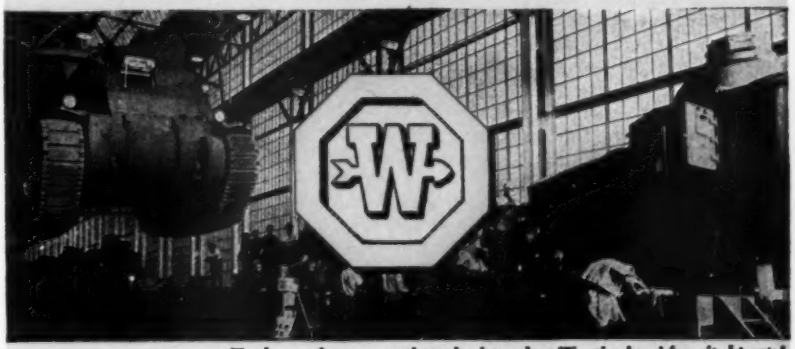

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THE Steering Column

A Midwestern Motorist arrested for traveling at 3 mph failed to establish a claim that he was conserving his gasoline. A skeptical judge fined the snail's-pacer $100 for driving while intoxicated—but refrained from adding two bucks for parking.

The Greatest of "E's"—the new Army-Navy E for "excellence"—recently went to two Esso Marketers affiliates. Humble Oil & Refining Co., Ordnance Plant down in Texas got one for its toluol production with a process developed by ESSO Laboratories. And Gilbert & Barker Mfg. Co. in Massachusetts, where they normally produce oil burners, was commended for a swell job in making war equipment. These honors will spur the tremendous efforts already being put forth by the entire organization.

Terrific Letdown was experienced by an Oregon man when a brand new tire and wheel bounded down a nearby hill and crashed against his house. Probably mumbling something about "manna," he turned his find over to the police, who were unable to locate the owner. Only after they had ruled that he could keep the precious thing did he discover that it was the wrong size for his car.

Behind the Handlebars is the modern place to put criminals. At least that's what one Florida sheriff evidently feels. After making an arrest while on bicycle patrol, he arrived back at the jailhouse in style —riding the handlebars while the chastened prisoner pedalled. Singing, no doubt—"If I had the wings of an Angel!"

A Suggested Solution of the oil transportation problem comes from a Georgia reader. He would have strings of big, streamlined tanks, towed by ocean tugs. These would be so constructed that they could be divided in half and stacked for the return trip. If a tow were attacked, the tug would cast off and race away or even stalk the sub, while automatic radio devices on the tanks sent out an SOS. Perhaps you have an idea on this subject. If so, why not send it to Northrop Clarey, Standard Oil Company (N. J.), 30 Rockefeller Plaza, New York City.

The March of Industry—

Title Reg. U.S. Pat. Off.

(Here each week appears a special report on the battle of production. The story of how American industry is providing planes, tanks, guns and ships is the story of how the war is to be won.)

ON TIME: HOW THE RAILROADS ARE AIDING PRODUCTION EFFORT

XXXIX—Railroads: The Production Job

Railroads are moving the goods in this war with no slowdown in prospect from their part in the transport job. About 75 times as much oil is being moved into the Eastern area as a year ago. Coal shipments into New England are 43 per cent higher this year than last. Altogether, the roads are carrying about 30 per cent more freight and 50 per cent more passengers than they did in 1941. There hasn't been a breakdown yet.

But the most critical part of the task is still ahead. War production is just at the start of the peak spiral; the Army is drafting more men and that means larger troop movements; nationwide gasoline rationing will increase civilian traffic immensely. The freight load in 1943 is expected to be at least 15 per cent greater than in 1942. That adds urgency to the preparations the railroads are making to care for the tremendous future demands on their services.

The preparations are mostly refinements of the existing system for expediting rail transport. Railway officials see no likelihood that the Government will take over their industry, as it did in the last war. They point out that the railway companies are organized effectively, are policing the transportation network as well if not better than any outside agency could do.

For their part, Government officials indicate they want to upset established practices as little as possible. Rationing of freight space and passenger seats is not being contemplated, though priority systems may be set up sometime to make certain that those who travel on war business will be sure of reservations. Restrictions on nonessential services, such as duplicating high-speed service on competing lines, already are being applied. Where necessary, train service to areas served by other types of transportation will be discontinued.

The fact is that the railroad industry, backed by the Government, is giving the right-of-way to war needs all along the line. So far all essential schedules are being met on time.

What the industry is doing. Hardest problem facing the industry is that of getting enough equipment. Deliveries of new rolling stock are not up to expectations. During 1942, only about 800 new locomotives and about 60,000 new freight cars

—OEM

FREIGHT TRAIN: No slowdown in sight for war movements.

will be added to the total fleet of rolling stock.

At the moment, the industry's request for additional equipment in 1943 is under study at the War Production Board, but the railroads aren't guessing as to how much WPB will pare down their request. New railroad cars use lots of steel, which is critically short today. The greatest need is for open-type cars used in hauling coal and ore. About five tons of iron ore, coke, limestone and other raw materials go into the manufacture of one ton of steel.

With limited supplies of new equipment to count on, the railroads must utilize to the utmost what they have.

Control: All important roads are members of the Association of American Railroads, organized in 1934. Its Car Service Division controls the movement of all freight cars in the country, exercises dictatorial powers over the equipment of all individual companies' equipment in the interests of the maximum common good.

From its 33 branch offices, the Division supervises the movement of loaded and empty freight cars between railroads, anticipates the needs for cars in major shipping areas, prevents congestion of loaded cars at ports or shortages of empties where there's a load to carry.

If unloading facilities at a seaboard terminal are overtaxed, the Car Service Division issues an embargo halting further shipments to that port until congestion is relieved. If a big manufacturer keeps idle cars on his siding, the Division embargoes the plant and it will get no more supplies hauled in or products hauled out until he co-operates in keeping the cars moving.

Embargoes of individual shippers have been necessary in only a few instances since the war began. The shippers and receivers of freight are co-operating with the railroads in every way. This co-operation goes back to 1923, when 13 Shippers' Advisory Boards were set up in major shipping areas. Local committees have been set up since Pearl Harbor in 500 communities to promote efficient handling of freight and cars at the depots.

Operating efficiency is being increased as part of the drive to get every possible mile out of all engines and cars. In 1941, the roads spent $543,000,000 for improvements to roadways and structures and on new equipment. In 1942, they expect to spend about $675,000,000.

A few statistics show how operating efficiency has gone up within the last two years: In 1939, the average freight train produced 13,450 net ton-miles per hour; in 1941, it averaged 14,938 net ton-miles per hour, and, in the first six months of 1942, the average went up to 15,743 net ton-miles per hour.

Conservation: Finally, the railroads are making extra efforts to keep what equipment they can get in working order, and to cut down on the amount of materials required in new equipment and replacement parts. Freight car designs are lim-

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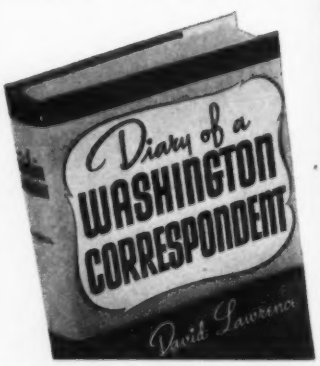
David Lawrence



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WHO ARE TAKING "THEIR" PLACES

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BRADLEY *washfountains*

ited by an agreement made last year to two types of boxcars, two of hopper-bottom cars, four of open-top or gondola cars, and three of flatcars.

Specifications are being revised to permit the use of narrow steel plates on cars, in place of scarcer plates of standard width. Wood is replacing steel where possible, and the saving on new cars averages more than a ton per car. Use of copper, tin, brass and other critical materials has been reduced to rock bottom. In parts for air brakes, new designs call for 34 per cent less copper and brass.

What the Government is doing. Meanwhile, Government agencies are supplementing and strengthening the moves effected by the industry itself. Closest cooperation exists between the Army and Navy, whose shipments account for the largest transportation job, and the railroad industry. (U. S. N., Sept. 25, page 48.)

Through that system, the complex problem of handling the vast amounts of Government freight are co-ordinated. This in itself is a great improvement over the system in effect until a few months ago.

Immediately after formal declaration of war, materials destined for overseas poured into shipping centers in unprecedented volume. The Army's shipments were directed through its own permit system, but all the vast amount of lend-lease material was being forced into the ports by the various procurement agencies, including the Treasury and Agricultural departments. At one time, the congestion in one port exceeded 6,500 carloads. But, in March, the Army was given full control over every Government shipment, and, with its port agency device, the congestion was cleared up.

Office of Defense Transportation has been tightening up the machinery where needed. A series of orders affecting railroads directly has accompanied the orders ODT issues relating to all methods of transport. The first of these orders, effective last May, cut down the number of cars engaged in less-than-carload traffic by ordering all railroads to carry an average of six tons of goods per car each month. As of September 1, the minimum load average allowed per car went up to 10 tons.

Another important order, effective October 15, requires that cars be loaded to capacity as far as practicable. Order number 16, principal provisions of which took effect August 1, put War Shipping Administration in control of commercial shipments destined for export. WSA control supplements the railroads' own embargo permit system on export freight, means that freight is not likely to get into a port unless there is a ship there to take it away.

How well the plans are working. Result of all these actions, the close cooperation among the Government, the railroads and shippers, is that the roads after the first two years of wartime operation are clear of congestion and ready to undertake the heaviest movement of freight traffic in history.

We've Been Asked:

ABOUT LOANS FOR HOME REPAIRS

(The Government is committed to a policy of protecting the nation's $80,000,000,000 property investment by encouraging owners of homes and business properties to keep their buildings in a good state of repair during the war. To carry out this policy the Federal Housing Administration stands ready to insure loans for repairs despite rigid restrictions on new construction. Government-insured loans also are available for remodeling homes as living quarters for war workers.)

How much money can be borrowed for repairs and maintenance work?

Loans for such work may be obtained in amounts up to $2,500.

How soon must these loans be repaid?

Repair loans are subject to installment credit rules of the Federal Reserve System and must be repaid within 12 months.

What sort of repair work is permissible?

Improvements such as painting, papering, repairs to plumbing and roofing or any similar repairs that will keep property in good condition. Luxury repairs or improvements merely to beautify a home are not approved. Repairs also must be of a nature that does not change the structural design of a building.

Can repairs of this type be made anywhere in the country?

Yes.

What about loans for improvements that will reduce fuel consumption, such as conversion of oil burners to coal units, insulation, storm doors and windows and weatherstripping?

Loans may be obtained to finance such conversions in areas where fuel oil is being rationed. Loans for such purposes have been exempted from the Federal Reserve Board's consumer credit regulations and may run for as long as three years.

What about loans for remodeling to provide additional living quarters?

Loans for this purpose are available in amounts up to $5,000 for as long as seven years. They are to be paid off in monthly installments.

What are the conditions under which a remodeling loan will be granted?

To qualify for a loan, a remodeling project must be located in an area where the housing situation for war workers is critical, and must be made with a view to providing living accommodations for war workers. Applicants for loans must certify to the bank or other private lending institutions that for 60 days after his project is completed he will give first call for occupancy to war workers.

Who are considered war workers?

Members of the armed forces, persons employed in plants producing war materials, or employes of agencies of the Government that are engaged in war work.

What is a critical war housing area?

It is an area designated by the President as having insufficient housing accommodations for war workers employed nearby.

What type of construction can be undertaken with a remodeling loan?

Attics, basements and other unfinished spaces may be converted into finished rooms or apartments and additions may be made to existing buildings. A building not used as a dwelling may be remodeled into a single or multi-family house.

Must an owner obtain permission from the War Production Board to use critical war materials for remodeling or repair work?

WPB authorization is necessary before critical materials can be used in a remodeling project unless the total cost of the improvement is less than $200. Maintenance work and essential repairs that do not change structural design are permitted without WPB authorization. Applications for WPB preference ratings can be filed with local offices of FHA.

Why does Government encourage remodeling projects and at the same time restrict construction of new homes?

Because the President has said that existing structures are being counted upon to absorb a large proportion of the 1,600,000 war workers who need housing. Remodeling requires a much smaller amount of critical materials than new construction.

Where can repair and remodeling loans be obtained?

The credit facilities of more than 5,000 banks and other lending institutions are available under FHA's lending program. Any FHA office and almost any local bank or financial house can provide information about loans.

VICTORY with a sound lasting peace is the goal toward which we are all fighting and working.

Industry's contribution to this objective has been the meeting and exceeding of so called "fantastic" production levels. And industry can and will meet even greater demands.

Industry realizes that, gigantic as its problem is today, the postwar problem of assuring the economic security of all concerned will be equally serious. So let's plan *now* to utilize and coordinate the lessons we are learning today in production, new methods, new economies, so that After Victory our security will be assured.

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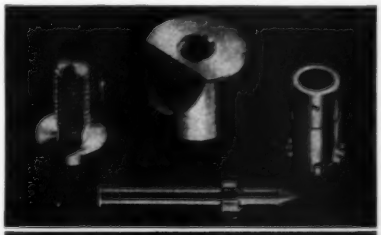

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Inter-America Week

STREAMLINING TRADE CONTROLS

U. S.-Brazilian Agreement as Pattern for Speeding Our Exports

Co-ordination of procedure in Washington. Move to end tie-ups at ports

Washington is getting ready to simplify its present method of trading with Latin-American nations. The pattern for a series of expected agreements with other Hemisphere countries is an export licensing arrangement just worked out between the United States and Brazil, effective October 1.

Under the new system, Governments of the importing countries will have a greater voice in determining their own needs; there will be less dictating from Washington.

United States businessmen who have complained of the uncertainties and paper work of the present system are hailing the Brazilian agreement as a long step forward. And Brazilian importers are pleased with a provision of the agreement which reduces their importing costs. The agreement works like this:

Certificates of necessity are issued by the Bank of Brazil for goods that private firms in that country desire to import from the United States. Brazil's minimum requirements for specified periods (probably three months) are worked out by the Bank in collaboration with the United States Ambassador, Jefferson Caffrey.

A Government committee, consisting of representatives of the State and Commerce Departments, the Board of Economic Warfare and the War Production Board, then passes upon the request, decides how much steel or lumber, how many automobiles, typewriters, tires, machines, etc., Brazil should have for the coming period. The allocation is cabled to Brazil and the Bank splits up the supply of allotted goods among the various industries offering to buy. In this way the Brazilian Government instead of the United States Government bears the brunt of the blame from companies whose orders cannot be filled according to specifications.

Next step is for the Brazilian Government to send the certificates of necessity to Washington. These go to the State Department and copies are forwarded to the Board of Economic Warfare. BEW, which in the past has issued export licenses on its own volition, now must grant such licenses automatically because of its membership on the Government committee which approved the over-all allocations. Likewise, the War Production Board must grant the necessary priorities to exporters and manufacturers by virtue of its membership on the same committee. In the past BEW has had WPB's permission to release materials and goods before granting export licenses, but in the new set-up the State and Commerce Departments have an equal voice in controlling exports.

—Wide World

AMBASSADOR CAFFERY, BRAZIL'S ARANHA
Their agreement is expected to set an export pattern

Under the Brazilian agreement WPB continues to exercise strong control over actual placing of orders with manufacturers or wholesalers in this country. Each certificate of necessity bears the name of the firm from which the Brazilian customer wishes to buy. However, WPB may route these orders to other companies if it decides that the firm specified as preferred should concentrate on war production and therefore would not be able to fill an order for the goods desired.

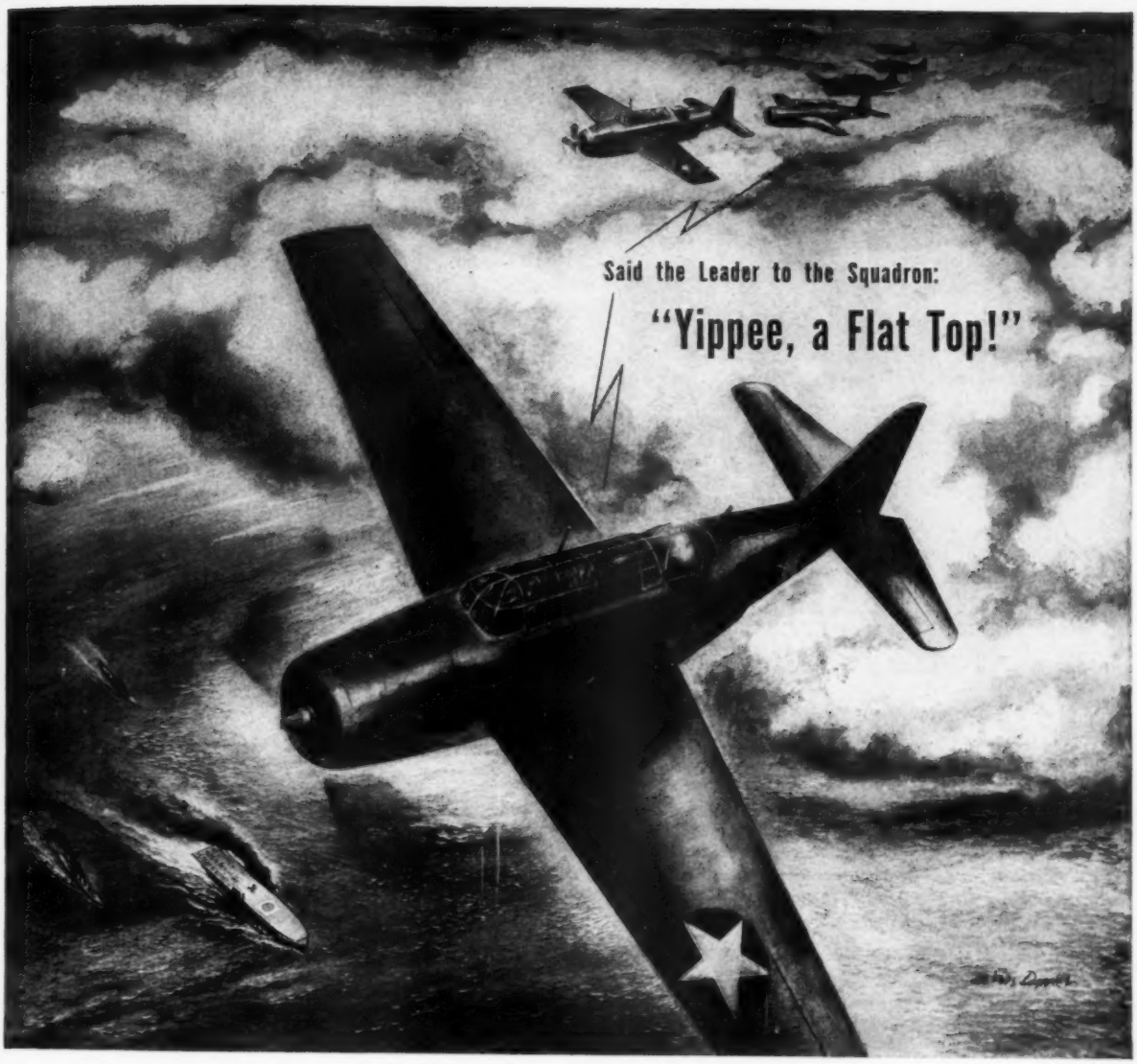
Thus, when a manufacturer gets an order he has no further worry except to fill it. In the past, he has had to obtain an export license from BEW before he could fill an order from a Brazilian buyer. If BEW rejected his request, lengthy appeals, correspondence and delays often resulted.

The Export-Import Bank, under the new plan, steps in to assist in financing the handling of the shipment from the day the manufacturer issues a certificate of production. This arrangement enables the seller to get his money the day his product is ready for shipment. Also, the Brazilian importer does not have to pay for his purchase until he receives it, thus eliminating the need for interest-bearing letters of credit which add to the expense of the purchase.

When the system begins to function fully in Brazil and the other Hemisphere countries where it is expected to be installed, additional personnel will be needed in the United States embassies to handle administrative work. Here again, the State Department will exercise control in that it, instead of BEW, will select the embassy employes.

Shipping space. An important provision of the new plan is this: When an export license is issued it carries with it an automatic license for shipping space. In the past, orders sometimes have waited for weeks at factories and docks before shipping space was available.

Theory behind the change is this: It is better for the importing Government to decide the minimum demands for goods of its businessmen, despite the politics that might influence such decisions, than it is for such decision to be made thousands of miles away in Washington.



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In both the Coral Sea battle
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Who reported back by radio.

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With perfect team work
Plastered the Jap task forces . . .
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For War Industries

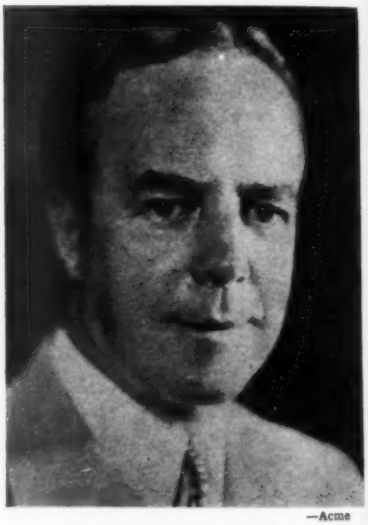
People of the Week

Title Reg. U.S. Pat. Off.

K. N. Walker likes to watch his boys work on a bombing mission. Brig. Gen. Walker carries a bottle of oxygen and moves about the plane at high altitudes, watching the crew in action. Last week, General Walker made his eleventh such flight from Pacific bases in two months. His theory: An officer can't stay in safety on the ground and try to tell airmen how they should fight aloft.

* * *

Hiland Garfield Batcheller spent 35 years learning the steel business, much of that time working with alloys. He started as a salesman for United States Steel. Successive steps took him to the presi-



—Acme

HILAND G. BATCHELLER

dency of the Ludlum Steel Co., later the Allegheny-Ludlum Steel Corp., perhaps the biggest maker of alloys in the country. Long ago, he urged war production chieftains to stock up with nickels, chrome, tungsten. Last week, Mr. Batcheller stepped into a job where he could make both his knowledge and his advice felt. Post: Head of WPB's iron and steel branch.

* * *

Roane Waring killed a calf with a Memphis streetcar when he was 14. When the World War came along, Mr. Waring, a good bit older, organized a battalion of Tennessee infantry, moved along through every rank from private to colonel, fought in the St. Mihiel and Meuse-Argonne offensives. After the war, he went into the legal department of the Memphis Street Railway Co.—which owns the street cars—and finally became its president. Last week, Mr. Waring moved up another notch among his comrades of the last war.

He became national commander of the American Legion.

* * *

Ralph A. Bard once sold stocks and bonds and thrived. He also ran corporations and took an active interest in Chicago civic and relief drives. A year and a half ago, home-towner Secretary Knox brought him to Washington as Assistant Secretary of the Navy. Last week, Mr. Bard worked at his toughest selling job. He told the international convention of CIO shipbuilders: "We are still losing this war and we should damn well understand it. It will take all we've got to win."

* * *

Henry L. Stimson caused a furore among Republicans two years ago when he became Secretary of War in a Democratic administration. But he kept the post. Erect, authoritative, he gets to his office at 9 a.m., leaves at 4 p.m., bowls, plays deck tennis, rides or swims at his Washington estate, "Woodley," is up every morning at 6. Last week, Secretary Stimson caused a furore in the sports world by cancelling plans for the Louis-Conn fight. And he had a birthday. Age: 75.

* * *

Ferdinand Eberstadt had the snappiest battery in the 304th Field Artillery in the last World War. He was wounded in France, came back to fight Wall Street battles as a corporation lawyer and develop into a partner in the Dillon, Read investment firm. In the depression, he ran his own company and made money. Last January, this World War called him to Washington to handle military schedules and priorities as chairman of the Army and Navy Munitions Board. His direct action got results. Last week, Donald Nelson moved Mr. Eberstadt into the vice chairmanship of WPB. Hope: To put more snap into WPB.

* * *

Richard R. Amerine is 23 and from a town in Kansas where killing nowadays is a rarity and the residents wear clothes in public. Last week, Lieut. Amerine, the pilot of a Marine fighter plane, was ready to get back into action in the Solomons again after a seven-day hike with little food through a mosquito and enemy-infested jungle. He had killed four Japanese, one with a rock, and arrived at a Marine outpost clad only in shorts.

PACIFIC GAS AND ELECTRIC CO.

DIVIDEND NOTICE

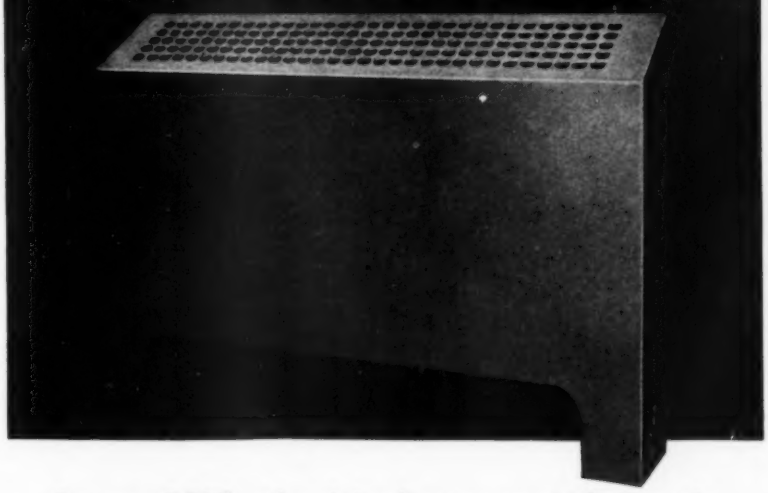
Common Stock Dividend No. 107

A cash dividend declared by the Board of Directors on September 16, 1942, for the quarter ending September 30, 1942, equal to 2% of its par value, will be paid upon the Common Capital Stock of this Company by check on October 15, 1942, to shareholders of record at the close of business on September 30, 1942. The Transfer Books will not be closed.

D. H. FOOTE, *Secretary-Treasurer*

San Francisco, California.

ANNOUNCING a new non-metallic cabinet convector by TRANE



Saves 80% of critical war metals yet is smartly designed, ruggedly constructed

Skilled cabinet makers fabricate the casing of the new Trane Non-Metallic Cabinet Convector. Note the round grille design that permits positive air circulation without sacrificing cabinet strength.

Ideal for Army Hospitals, the Trane Non-Metallic Cabinet Convector will save thousands of tons of precious metals in jobs similar to this one.

Now a new convector that saves 80% of the precious metal used in the conventional radiator. Trane, at War Production Board suggestion, has developed a convector cabinet that utilizes non-critical substitutes. Yet many of the features that have made Trane Convectors the leaders in the field have been retained. There is the same even heat, fuel saving, attractive appearance, and cleanliness. The same mechanical bonded fin and tube coil construction. The same Trane Sloping Top feature.

The cabinet is fabricated of a durable non-metallic material, carefully reinforced by hardwood supporting members. Only metal used is a minimum of screws and brads. The easy-to-paint cabinets may be finished as desired when installed.

The steel heating element is carefully supported by means of hardwood corner posts eliminating any strain on the cabinet.

Two cabinet arrangements are available—one for wall suspension and the other of free standing floor type.

Available for war factories, army camps, hospitals, and similar military establishments, this new unit has already saved as much as 300 tons of precious metal on a single job. For further information call the nearest Trane representative or write The Trane Company, La Crosse, Wisconsin.

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LA CROSSE, (AIR) WISCONSIN

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HEATING • COOLING • AIR CONDITIONING EQUIPMENT FROM 85 OFFICES

Washington Whispers

Title Reg. U.S. Pat. Office

Cost of Pegging Farm Prices . . . Harry Hopkins's Role In Fight on Inflation . . . London Trip for Mr. Nelson?

Harry Hopkins found time, in the midst of his war job at the White House, to direct the President's dealing with Congress on inflation control. All affected Government departments had to work through Mr. Hopkins.

★ ★ ★

Mr. Roosevelt, in an off-hand manner, told a group of farm bloc representatives to go ahead and place a floor under farm prices at 90 per cent of parity. By this gesture, the President gave to the farm bloc what Farm Secretary Wickard and Vice President Wallace had fought for a long time to prevent. This floor will raise prices of feed and thereby tend to raise the price of meat. It may cost consumers or taxpayers about $1,000,000,000.

★ ★ ★

Some of the President's advisers are hinting broadly that in their opinion Leon Henderson made a mistake when he stirred Mr. Roosevelt up as much as he did on inflation. They think that the President is gaining little in the resulting fight and has devoted a disproportionate amount of his limited time to this subject in a critical war period.

★ ★ ★

Argument that was telling in the debate over latest inflation control was the one that the President now possesses power to control prices, but that he does not have power to control wages and will get that power in the bill that the White House wants approved.

★ ★ ★

There are revived reports that Army Chief of Staff Marshall will go to England to command all second front activities and that he may be accompanied by Air Force Commander H. H. Arnold. New men then would come to the top in Washington.

★ ★ ★

Mr. Roosevelt is far from pleased by slightly veiled hints from London that it was the American President who devised the language that told the Russians there was full understanding "with regard to the urgent tasks of creating a second front in Europe in 1942." Russians now insist that this understanding is not being fulfilled.

★ ★ ★

Farm labor costs, over which the farm bloc defied the President in order to insert them in the formula for determining "parity" prices, were not included in the past because, if they had been, their inclusion would have resulted in a lower "parity" than has prevailed. After the war, the farm bloc probably will fight to get those costs removed from parity calculations.

★ ★ ★

If Madame Chiang Kai-shek, wife of China's Generalissimo, visits the United States, it will be for the purpose of rebuilding her health. Life in the interior of China for those not acclimated is very harsh.

★ ★ ★

Some officials are saying that the Western builder, Henry J. Kaiser, was easily satisfied when he came to Washington with an idea for building 5,000 super cargo airplanes and left with an agreement for permission to build three.

★ ★ ★

The Navy's fliers still are far from satisfied with the recognition they are getting in promotions and in top-flight command of Navy operations.

★ ★ ★

W. L. Batt and James L. Knowlson, who formerly were in key positions in command of the War Production Board, will be less directly responsible for operations in the future.

★ ★ ★

War Secretary Stimson, now 75, is continuing in active charge at the War Department despite reports revived periodically for two years that he would retire. If Mr. Stimson should decide to step aside, after the war takes a favorable turn, he probably would be succeeded by Robert P. Patterson, now War Under Secretary.

★ ★ ★

President Roosevelt from now on is to make more personal appearances and is to make more use of the radio and moving picture shorts to try to recapture what he is being told is a loss of contact with the people. The President was surprised at evidence that his rating took a nose dive in the popularity poll of an opinion survey.

★ ★ ★

Donald Nelson, later this year, may find time to visit England. With his WPB reorganized again, this time with men in command who see eye to eye with the military services, Mr. Nelson will be less tied down to his desk.

★ ★ ★

If pay-roll taxes are frozen at present levels for another year, taxpayers can give credit to Treasury Secretary Morgenthau. Mr. Morgenthau's recent lectures to Congress on taxes are serving to cause Congressmen to react against Treasury plans. Pay-roll taxes now are scheduled to rise automatically on January 1.

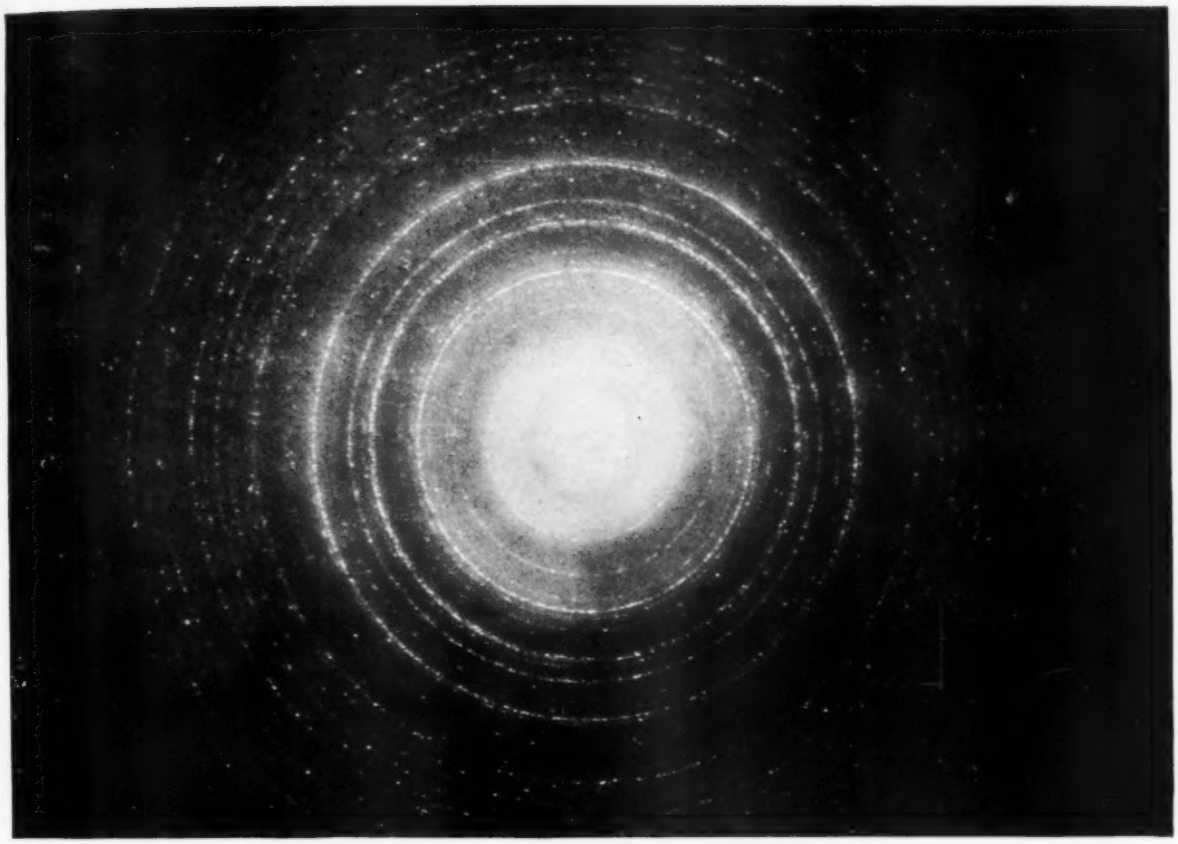
★ ★ ★

Claude Wickard, Farm Secretary, is resisting successfully to date the idea of creating a separate food administration on the ground that this administration simply would take over most of the existing Department of Agriculture.

★ ★ ★

High farm officials assert that plans for food control that must pass through the War Production Board almost invariably are stymied by businessmen in that organization who aren't in sympathy with the farm control program.

XUM



A NEW ELECTRONIC SUN!

The famous RCA Electron Microscope has a new attachment—a diffraction camera, so that man's eye can see the enormously magnified structure of an infinitesimal object and actually determine its atomic design.

The *atoms* are not seen but the new adapter *finds out where they are*. The revealing picture looks like the midnight sun. But in reality this is not a picture of anything. It is the spirit of the crystal structure—an assembly of complex clues from which the mathematical detective can determine how the atoms take their orderly arrangements in various substances.

Scientists call the picture a diffraction pattern—a pattern from electrons, which found their way through the crystal lattice—that invisible, exquisite arrangement of atoms which nature fashions from humble table salt to the lordly diamond. It is a set of concentric circles, some diffuse, others sharp. From the dimensions of the circles and the intensities, the arrangement of the atoms in the material is determined, so that the crystal structure can be identified and analyzed.

Thus, RCA Laboratories open new and unseen worlds for exploration as the Electron Microscope coupled with the new diffraction camera sees deeply into electronic and submicroscopic realms.

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